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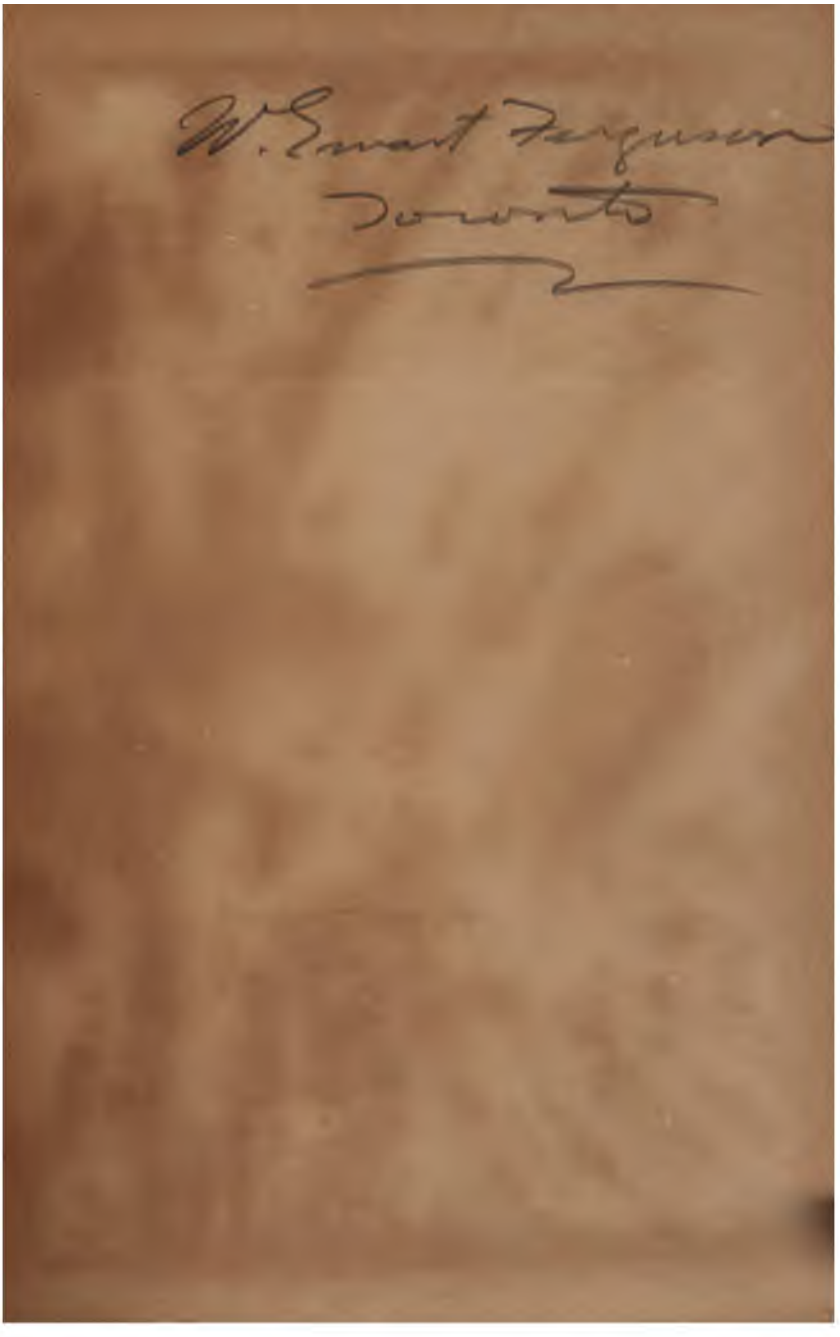
W. Grant Ferguson
Toronto

THE COMBINED TREATMENT

IN

DISEASES OF THE EYE

THE

COMBINED TREATMENT

IN

DISEASES OF THE EYE

BY

G. HERBERT BURNHAM

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TO THE MEMORY OF MY FATHER

A PHYSICIAN IN WHOSE MIND WAS PRESENT THIS CONVICTION

THAT THE TREATMENT OF DISEASE OUGHT TO HAVE BESTOWED UPON IT

AT LEAST AS GREAT THOUGHT

AS THE MOST FAVOURED BRANCH OF MEDICINE.

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PREFACE.

THAT which is at the present time giving to the Medical Profession such an increased hold upon the confidence of the public, and causes its expressed opinion to have so much weight, is the great advancement made of late years in our power of curing disease.

For a long time it has been the custom of our teachers to devote themselves to the study of the symptoms, pathology, diagnosis, &c., of disease, and to give to the treatment, that with which the people are the most concerned, a superficial notice.

It was thought by many of the Profession bemeaning to the dignity and acumen of a physician to prescribe remedies for disease. Those, who did so, especially if they believed in their efficacy, were called non-scientific, old-fashioned, and often referred to in far from complimentary terms.

To this injurious non-professional and short-sighted procedure there were never wanting strong opponents.

As I look back at the long list of eminent members of the Medical Profession, I am, and always have been, astonished at this discrepancy in their teaching.

Lord Lister by his discoveries gave the first great impetus to the idea that by devotion to the cure of

disease were we to mount up to our true level in the body politic.

To him and his practices, how strong and oftentimes unscrupulous was the opposition. His methods have triumphed; and now we, having been taught our lesson of the advisableness and justness of paying marked attention to the treatment of disease, should always, with a calm and open mind weigh the claims of any new treatment, that is creditably brought to the knowledge of the profession.

It is hoped that the enthusiasm now present in our ranks, and the growing demand for our services by the public, will incite us to use every endeavour to place the treatment of disease upon a level with that of a most cultivated branch of medicine.

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IN

DISEASES OF THE EYE.

CHAPTER I.

1. The Origin of the Combined Treatment. 2. The Theory of its Action. 3. The Manner in which it should be given, and General Remarks.

1. In ophthalmology for many past years the non-success, or the great uncertainty of the results of our treatment of certain diseases of the eye, has always been a source of unrest and regret to me. This feeling of helplessness has caused me to long for some method of treatment which should be of greater service.

During a few years preceding 1890, I happened to meet with a larger proportion than usual of diseases of the eye in which the exertions of other oculists, and my own, had been fruitless of good results.

Early in 1890 a man presented himself for my opinion suffering from what had been so far an incurable disease of the eyes, and which according to many, if not all, authorities is regarded as incurable. On the question of treatment I was quite at a loss as he had been the rounds. I sent him away to return in a few days, when I should give my decision. When he returned I had decided upon my line of treatment. It was the hypodermic injection of pilocarpin.

At that date there was no literature of any moment upon the effects of this drug; and its use, though mentioned in regard to a few affections of the eye, was not advocated as likely to be followed by any special result; but merely as something that might be tried.

I shall endeavour so to write, that it may be seen how I managed; how the rationale of the combined treatment I now practice has developed and become a fixed procedure, how my belief in its power of healing has gone on gradually increasing, till I have ended in assigning to it greater results and possibilities for good in many diseases of the eye than from any form of treatment hitherto practised by oculists.

Let it be remembered that I am dealing with the treatment of disease and but incidentally with any other conditions. When I was Resident House-Surgeon at Moorfields Eye Hospital, which most valuable post I held for several years, pilocarpin was occasionally given by mouth and sometimes hypodermically with indifferent results. It was used in diseases where the remedies regarded as the most effective had been tried in vain. It was thus given in a hesitating, unbelieving way, and quickly abandoned. If good results did follow they were not thought much of, for they were only slight in character.

However, when I determined to apply it, I decided to use it in the most effective manner, viz., hypodermically, and to give it a good trial, *i.e.*, if in a short time after its use an improvement began, to continue it.

I had to find out the most effective manner in which to use the pilocarpin. This has given me much concern. To carry out its administration as successfully as I have so far managed, has been the outcome of long and careful observation. The merging of it into the *Combined Treatment*, as I have termed the internal use of

mercury and the iodide of potassium, associated with the hypodermic use of pilocarpin, was brought about with misgivings, which have happily turned out to be groundless.

It has always been deemed a dangerous medicine on account of its effect or supposed effect upon the heart. What dose I could with safety give; how marked a physiological effect was to be produced in order to get a full constitutional effect; how this full effect was to be gauged and kept up; and how great an activity was to be maintained in order to get the desired results, were some of the things I had to learn.

The great necessity of a fixed routine, such as I shall give, has been forced upon my mind as the result of *sixteen* years of carefully directed attention to the action of this drug.

I had prior to this time used it; but in the desultory and forlorn-hope spirit, which was then the rule, and is to-day, in spite of any recommendation I have given, far too prevalent in the minds of the medical profession.

It is a medicine either along or combined with other medicines of such a nature as the disease may require, which has apparently very great possibilities indeed. In regard to its use alone or combined with mercury and the iodide of potassium, there is *no doubt* in my mind that the combination is more powerful than the pilocarpin by itself. Of the two members of the combination I regard pilocarpin as the more active for good. To some this opinion may seem rank heresy, I am aware.

At one time I was very hopeful that its use in conjunction with other medicines than mercury and the iodide of potassium might be successful. However, I have, as far as actual experience goes, found no especial

benefit in using it with any other medicines than mercury and the iodide of potassium.

2. My working hypothesis has always been as follows :—The reason of the radical nature of its influence seems to be, that it stimulates all the nerve-centres to a remarkable degree, and through them the ordinary physiological processes, but especially those of the affected parts or organs, are aroused to an activity far in excess of the normal, and thus the diseased condition is acted upon and removed.

Moreover, this hyper-activity can be *regulated* and *sustained* for years, if necessary, by the manner in which the Combined Treatment is administered.

3. In the beginning my first group of injections was ten in number and were given every day. Now, however, subsequent experience has changed this division. In cases in which the disease is spreading rapidly or the tissues are already very much affected by disease, I give the treatment more energetically.

In a case of acute fulminating sympathetic ophthalmia, I for the first time gave it more uninterruptedly than ever before. I then used the pilocarpin hypodermically every day for six weeks, and after that length of time every second day for five months without intermission. At the end of this time having got the diseased condition completely under control, I was able to give it more leisurely.

In an ordinary case, I give the first series in number from ten to twenty-one. After an interval of from two to four weeks, I allow seven to ten injections. This series is then adhered to and kept up with intervals varying from four to eight weeks. Eight weeks is the longest interval that can, with safety, be allowed between the series. If this limit be exceeded, though *there may* be no relapse or loss, still there is no further *improvement.*

This I have proved clinically in the case of a patient who was given these injections continuously for four years. During one year, the third, he came four times only, with the result that the eyes, which had up to this time steadily improved, came to a stand-still. They held their own, it is true, but did not improve. However, during the fourth year, he implicitly obeyed my instructions with a decided improvement in the condition of his eyes.

When I first used this combination I was on the alert for ptyalism. I was afraid lest the combination might produce excessive ptyalism. This, however, it does not, and the danger of mercury producing ptyalism in this combination does not appear to be any greater than when used in the ordinary way. While in use the pilocarpin is given every day, unless there be nausea, vomiting, headache or oppression over the region of the heart, when it may be stopped for one day or perhaps the dose only reduced.

The feeling of oppression over the region of the heart is often felt at the beginning, and after a time is not noticed, even when the dose is as large or larger.

As the Combined Treatment is such a powerful stimulant to physiological activity, in a short time after its use the physiological condition of the whole body, especially that of the liver, is so improved, that the feelings above described either pass away or are so much minimised as no longer to cause any alarm either to myself or to the patient.

The timidity in the mind of many of the members of the profession regarding the use of the medicine, pilocarpin, is, I am persuaded, almost groundless. I have had symptoms show themselves which at the beginning of the use of my Combined Treatment did alarm me; for I at once suspected the heart. These symptoms

produced by its use arise from its effect upon the liver, not upon the heart, save in exceptional cases.

We know when the functional activity of the liver is suddenly interfered with that alarming symptoms of collapse with vomiting do show themselves. This Combined Treatment does arouse all organs to an intense activity, and hence, the liver, if unable to satisfy this demand upon it, does originate a condition of the nervous system, alarming, I allow, but not dangerous. The continued use of the Combined Treatment is followed by a cessation of these symptoms, which tolerance is the outcome of the excellent physiological health of the various organs, especially the liver, consequent upon the increased activity of the physiological circulation of all of these organs.

I never gave any stimulant whatsoever, either before or after the injection. It might be necessary to order a stimulant when the patient showed a peculiarity only found out after giving the drug; but the necessity of its use during a group of injections is, I consider, a proof that the medicine is wrongly administered. The longest group of injections is the first, and the later ones vary from eight to ten in number.

The temperature of the room should be from 65° to 75° F. Flannel sheets are used on the bed instead of cotton or linen, with the ordinary amount of additional bed-clothes only. The patient clad in an ordinary suit of under clothing lies partly or wholly on his side, having a moderate sized pillow under his head. In his hand is a mug to catch the saliva. The bed-clothes are well tucked in about the body, especially close up to the spine from the nape of the neck downwards. No draughts of air are allowed to play over him as he lies in bed. He then gives me his arm and into the forearm *I inject* the solution. The arm is again put under the

bed-clothes, which are again arranged carefully about his neck.

Profuse perspiration of the whole body with a markedly free flow of saliva, which is spat into the mug without any change of posture, should always follow. Any less effect means that the drug has not been properly given, *i.e.*, either the dose is too small or the surroundings are wrong. The patient remains in bed till the perspiration ceases, usually one and one-half to two hours. There is no objection to staying in bed a longer time; but if he gets up too soon the perspiration breaks out afresh, and a most uncomfortable chilly sensation is felt. After arising he is wiped dry with warm towels. He then dresses and may go about the house, but must not go out-of-doors. He may take his evening meal, eating ordinary wholesome food and in moderation, as often the appetite is too good to be freely indulged.

During the time that the patient is in bed there may be pronounced thirst. I find that it is advisable to give no drink of any kind during this period. Later on, when the patient is being wiped dry, liquid in small quantities, with short intervals of five minutes or so, may be given. These liquids are water, water and milk, milk, lemonade, soda and milk, &c. By using any of these in the way mentioned the patient's thirst is more quickly satisfied, and the amount of liquid taken is less than if he drank freely at first. Besides I am assured that the effect of the treatment is more complete and the patient more comfortable. If the state of the eye permits it, in the morning he may even go to his employment, returning early enough in the afternoon for another injection. This is daily repeated till the number in the series is finished.

Pilocarpin having such a strong and direct action upon the nerve centres, these latter are consequently

rendered both very active, and also exceedingly sensitive to external and internal impressions. That is, I have seen a patient while under the influence of this drug affected injuriously by causes, such as want of quietness or a draught of air, which could only be felt by nerve-centres that had become very sensitive. A patient may say he feels chilly, as if the air were blowing about his shoulders, in a room of 75° F. with apparently no draught of air to be felt. By reaching over and tucking in afresh the bed-clothes along the spine, this at once passes away. Sometimes there is a tremor over the whole body, which is purely nervous, shortlived, and of no importance, as is also the other condition mentioned above.

If the patient complain of cold feet, apply heat to them. I now, as a rule, have a hot bottle put each time to the feet unless the weather be warm, as it is safer, in that cold feet act injuriously, like a draught of air upon the highly stimulated nerve-centres. However, to place hot bottles about the body so as to increase the perspiration is useless and confusing; for such stimulation is very superficial, and is not at all of the same character as that produced by the drug. And besides, it may cause one to think that the perspiration is really satisfactory, when it might not be if produced by the drug alone, and you thus deprive the sign of perspiration of its reliability and value. The room should always be well ventilated. There is no objection to having the door open, and in summer the window also. The one essential is to keep the patient out of draughts.

The strength of my solution is gr. v. ad ʒ j. The dose varies from gr. $\frac{1}{12}$ to gr. $\frac{1}{4}$, and sometimes gr. $\frac{1}{8}$, even to gr. $\frac{1}{2}$. By giving so little fluid with each injection and by always dipping the needle into a lotion of carbolic

acid, 1 in 20, I am able to use the forearm for many injections with very little soreness.

Some say that they have given as much as gr. j. at a single injection. This I do not understand, and I am quite certain that I should not dare to give as large a dose. If the syringe leaks apparently a very little only, it is impossible correctly to gauge the amount that escapes. The syringe I now use is marked in 1-minim divisions, large figures, and not in five minims, as is the rule, and hence I can estimate the exact amount that is sent in. The syringe should give a perfectly dry condition about the puncture and thus the dose can be accurately estimated. The leakage may be one reason of the large doses said to have been given. Another may be that by the use of alcohol internally just prior to the administration of the injection, an unusual power of resistance may be given. This latter procedure, however, I look upon as most decidedly non-physiological, and to have been adopted so as to counteract the effect of too large doses of the medicine, and the danger to the heart, which latter I regard as greatly overestimated.

Another rule is, that in order to get the best results, it is necessary to continue its use as long as there is any improvement, even five years or longer. In this way only can the maximum effect be obtained.

The apparent inertness or the very limited effect in many cases of medicine, as for example, iodide of potassium and mercury may be due to their inability to arouse this increased physiological activity. This further shows why pilocarpin in order to get its best results should always be associated with other medicines suitable to the disease; for then it should show its great value, its true position among medicines. This appears to be very plausible; but in actual experience,

I have found no combination except the combination spoken of, viz., pilocarpin, mercury and the iodide of potassium, to be of decided benefit. That is, that pilocarpin alone is as great in its effects as when joined to any other medicine. The only exception is mercury and the iodide, which combination does give a greater effect. The mercury is given as follows, viz.:—

℞ Hydrarg. cum cret. gr. j.
Pulv. opii gr. $\frac{1}{10}$
Pulv. ipecac. gr. $\frac{1}{10}$. M.

This can be made up in the form of a powder, pill, or gelatine capsule, or as a tablet. One is given three times a day, half an hour after eating.

The iodide of potassium (associated with Pot. bromidi gr. v.) is given in doses of gr. v. up to gr. xv., three times a day, one hour after eating.

During the injections I prescribe the medicines twice daily, once daily, or, if the stomach be sensitive, they are not given. However, as soon as the injections cease, they are again given three times a day up to the time of the next series of injections.

As a rule I test the vision just prior to giving another series of injections.

In my opinion pilocarpin can only be persistently and consistently used, alarming symptoms can only be avoided, and the best results can only be obtained, by methodically following out in every minute particular a routine of administration similar to the one I have laid down as my own.

It is very necessary indeed not to cause intolerance of the drug; but at the same time important to use it as fully as it can be borne. With respect to the danger of intolerance I am now not nearly as much afraid of producing it as I used to be. In fact on the contrary, *after* several years of its employment in any one case,

I find that the whole system in its widest meaning, is so thoroughly increased as to its physiological activity that a tolerance of the medicine is brought about. That is, that a good full dose, thereby meaning gr. $\frac{1}{8}$ to gr. $\frac{1}{4}$ or gr. $\frac{1}{3}$, or even gr. $\frac{1}{2}$, can be taken without any dangerous or unpleasant sensation. These two last doses may be regarded, especially the latter, as exceptional.

The action of the medicine on the system is certainly not lessened by its long use, is rather increased and steadied through the greater physiological healthfulness and virility—if I may use the terms, of the system.

This assertion I do now venture to make after *sixteen* years' experience of the use of this treatment, that, where in certain diseases of the eye, in spite of the thorough application of the authorized methods of treatment, very poor results have been obtained or only a steady progress from bad to worse. In these same diseases under my Combined Treatment, results far superior have been secured, sometimes brilliant and withal permanent as a rule.

If these remarks regarding the favourable effects of this treatment apply to all parts of the eye, as I affirm they do, having, as it appears to me, proved it, then they must of a surety apply to certain diseased conditions of other tissues and organs of the body.

CHAPTER II.

1. ONE CASE OF MARKED CHANGES IN BOTH EYES FROM MASTURBATION. 2. ONE CASE OF RHEUMATIC AFFECTION OF BOTH EYES. 3. ONE CASE OF SYPHILITIC AFFECTION OF BOTH EYES. 4. ONE CASE OF GONORRHŒAL IRIDO-CYCLITIS OF BOTH EYES. 5. ONE CASE OF CONICAL CORNEÆ—ALL TREATED BY THE COMBINED METHOD.

I now beg to narrate a case, the favourable or quasi favourable issue of which did, I now remember, really cause me to use pilocarpin hypodermically in the systematic manner in which I did in the case of the rheumatic affection of the eyes in 1890, given in this Chapter.

1. A young man, aged 28 years, consulted me in February, 1889, with regard to his eyesight, which had become very defective. In appearance he was well nourished, very pale and had a melancholy, depressed look. On examination the following was the condition of the eyes:—R. V. = J. 10, and no letters of the Snellen type at 20 feet; the cornea clear; T. n.; pupils slowly active with a few posterior synechiæ; vitreous haze with no visible floating opacities; optic disc normal, the apparent hazy appearance being due to the condition of the vitreous solely. L. V. = p. l. only, inability to make out even large objects; cornea clear: T. n., pupil sluggish; small opacities in the lens; large and apparently old detachment of the retina.

The sight of the R. eye began to be affected one and one-half years ago, that of the L. eye four years ago. *As soon as he* noticed any impairment of the sight of

the R., his good eye, as he termed it, he consulted an oculist. He said that he had been continuously under his care till a few months prior to consulting me. He also told me that an iridectomy had been advised. In spite of very careful treatment by the oculist, the R. eye was subject to repeated attacks of inflammation and the sight was becoming greatly impaired.

A careful examination as to the probable causes suggested that the condition of the eyes might be due to the practice of masturbation. On being accused he at once pleaded guilty, and said he had long been addicted to the habit.

Where the practice of masturbation has for a length of time been followed, there is, as is known, an inflamed state of the urethra in the region of the prostate glands, associated with severe lumbar pains. From this condition he suffered a good deal, and for its treatment was sent by me to a surgeon.

My treatment consisted in the hypodermic use of pilocarpin, the dose varying from gr. $\frac{1}{6}$ to gr. $\frac{1}{4}$ full. At the end of three weeks treatment the vision which had been in its present condition for a length of time, improved to $\frac{20}{200}$ ($\frac{6}{60}$), and counts letters of $\frac{80}{100}$ ($\frac{6}{36}$) and J. 6. There was less haze of the vitreous. He was kept under treatment on and off till June, when he went home.

At this time V. was R. = $\frac{20}{70}$ ($\frac{6}{24}$), and counts the letters of $\frac{20}{50}$ ($\frac{6}{18}$) and $\frac{20}{40}$ ($\frac{6}{12}$), J. 5, and with glasses J. 1 words of; L. V. = perception of large objects. During these four months there had been no inflammatory attacks, the eye being perfectly quiet during all this time. He promised to return in three months, but did not. In December 1889, that is, in seven months he came back.

The vision was as follows: R. V. = $\frac{20}{100}$ ($\frac{6}{36}$), and counts letters of $\frac{20}{70}$ ($\frac{6}{24}$); L. V. = as before.

During these seven months the eyes had been quite quiet whereas previous to my treatment there had always been acute inflammatory attacks. Not having returned till the expiration of this length of time would, I told him, perhaps make it impossible to improve the present vision. My opinion at this early date was, that the pathological changes might become more or less fixed, and thus no laudable change could be brought about; for it was now my impression that in the use of pilocarpin, marked but gentle effect must be kept up. However, I again used pilocarpin hypodermically for several weeks, not every day, with the result that R. V. became $\frac{20}{70}$ ($\frac{6}{24}$) and J. 1 was rather easily read. He again went home. For internal treatment he was given iodide of potassium and strychnine.

In March 1890, he wrote saying that the eyes had continued quiet and that the vision was about the same.

In July, 1890, he again came up to see me. Each eye V. = as good as when he wrote to me in March, or he thought slightly improved. There had been no inflammatory attacks, and in every way the eyes had remained the same as when he last saw me. He would not remain for any treatment. He was told to continue the use of the same medicines.

In September 1891, he again reappeared, that is, after the lapse of more than one year. Each eye V. = about the same. He again went home to continue the same treatment, as he would not have any pilocarpin injections, and I refused to give it to him by the mouth.

In September, 1902, he again came to see me. Each eye V. = the same, viz., R. V. = $\frac{20}{70}$ ($\frac{6}{24}$) and counts letters of $\frac{20}{50}$ ($\frac{6}{18}$) and $\frac{20}{40}$ ($\frac{6}{12}$), and J. 1 with 2·00 D. sph., whereas when he first consulted me V. = 10 only, and no letters at 20 feet. During the last two years he

acknowledged that he had taken his medicine very irregularly.

Disease of the eyes arising from the practice of masturbation seems to be chiefly associated with pathological changes in the ciliary region and the vitreous. If such a disease be not successfully treated, it is very apt to implicate additional structures of the eye, as the retina and optic nerve. Also small and large hæmorrhages into the vitreous may occur with or without detachment of the retina.

The permanent results of the treatment were, of course, very satisfactory. Had he but followed out the treatment as I wished, though it would have been very inferior in thoroughness to that which my older experience would have ordered, it seems as if greater improvement of vision could have been counted upon.

This case certainly caused me to regard this drug, pilocarpin, with more favour and confidence than ever before, and led up to my use of it in the case of rheumatic affection of the eyes with calcareous degeneration of the corneæ, detailed in this chapter.

2. The first case in which I used pilocarpin hypodermically in a systematic manner was Robert M., aged 48 years.* His general condition was that of chronic articular rheumatism. He was so crippled that he walked into my consulting room with difficulty, leaning upon two stout canes. Exposure seemed to be the chief cause of the disease.

The condition of the eyes was very grave. The centre of each cornea was thickly studded with small closely placed infiltrations, occupying a space larger than the pupillary area, but having a narrow rim of clear cornea up to the corneal margin. In both eyes,

* Referred to me by Dr. Tucker, Orono, Ontario.

but especially in the left, these infiltrations were undergoing undoubted and extensive calcareous degeneration. There was an iritic adhesion in one eye. The vitreous was slightly hazy; no change to be made out in either fundus: R. V. = a few letters of Snellen type for distance No. XX. at six inches; L. V. = a few letters of No XV. of the same type at six inches. He could not even guess the time on looking at the face of a watch with large figures and hands.

The eyes became affected three years prior to consulting me, and during this time there had been inflammatory attacks with subsequent deterioration of sight. He had been under the care of specialists, and though given very careful local and constitutional treatment, the eyes had steadily gone from bad to worse. Iridectomy had been advised.

As soon as he came under my care I began the hypodermic injection of pilocarpin. To begin with I used it every day for three weeks, the dose varying from gr. $\frac{1}{12}$ to begin with, up to gr. $\frac{1}{4}$, and a few times it was nearly gr. $\frac{1}{3}$. At the end of this period he could easily make out the time by an ordinary watch. He returned every six to eight weeks, and received each time a series of ten injections, one every day. From the beginning of the treatment there was an uninterrupted improvement both as to the eyes and the general condition.

Every six to eight weeks during 1890, 1891, 1892, 1893 and 1894, these injections were given. The vision gradually improved till in 1894 it was $\frac{6}{18}$ ($\frac{20}{60}$).

In April 1895, an interval of one year, during which no treatment was carried out, his sight remained the same. He is now very active, and can run up and down long ladders with great ease and quickness, as he could do at the end of two years' treatment.

At the present time, that is, eleven years since the

treatment was stopped, he is quite well and has never had any relapse whatever. The hypodermic injections of pilocarpin were discontinued at the end of 1894, as he could not attend any longer, and besides he saw and felt so well, that he was contented.

In this case the corneæ did not further clear up after the cessation of the treatment. I have observed, that as long as an improvement is produced by the treatment, it must be maintained if the improvement is to be continued, otherwise with the cessation of its use there is no longer any improvement. This non-progress, if the stoppage of the treatment has taken place at a sufficiently advanced state in the treatment, does not mean a relapse, it only means that the progress established goes no further.

This rule has of course exceptions, but my experience teaches me that in the main it is correct.

3. I shall now mention a case of acquired syphilitic affection of both eyes. In July, 1894, a man aged 30 years, was sent to me suffering from acquired syphilitic inflammation of both eyes of one year's duration. The treatment of the eyes during this period had been by mercury and the iodide of potassium internally and atropine locally. However, the eyes had steadily got worse, and when I saw him the condition was as follows: R. V. = letters of No. XL. of Snellen type for distance of eight inches, cornea and aqueous very slightly affected; posterior synechiæ more numerous and broader than in the left, so as to be almost without a break, *i.e.*, so as to form almost one solid ring of adhesion, and the lymph deposit in the pupillary area thicker.

L. V. = p. l. only; much conjunctival and ciliary infection; pain at times; aqueous turbid and many lymph dots on the posterior surface of the cornea; very many posterior synechiæ, some being broad and dense

with the deposit of a membrane of lymph in the pupillary area.

I continued the treatment of mercury and the iodide of potassium and atropine. At the end of five weeks no improvement had taken place, in fact the eyes were worse.

It will be observed that I did not at once use the pilocarpin treatment. The reason I did not was that it had been in use by me for four years only, and I was not as conversant with its curative powers as I am at the present time, and hence was more reserved in its application to the exclusion of the old routine. Therefore I tried the above remedies for the five weeks, so that I could give them a fair trial under my own supervision.

I now made a change in the treatment as follows: I still continued the internal use of mercury and the iodide of potassium, but added pilocarpin, giving it hypodermically, *i.e.*, I used the *Combined Treatment* for the *first* time in a systematic manner. This treatment was kept up for nine months, and the result at the end of that time was R. V. $= \frac{20}{40}$ $(\frac{6}{12})$: L. V. $= \frac{6}{6}$ $(\frac{20}{20})$. The deposit of lymph once markedly present in the pupillary areas seemed to be practically gone in the left eye, and much lessened in the right. Of the posterior synechiæ some had given away, others had become so thinned that persistence in treatment was alone needed, I am assured, to cause all of them to give way.

This case I hold has made manifest the superiority and value of the *Combined Treatment* over the ordinary routine of mercury and the iodide of potassium, or I might add any other treatment that could be named.

I very strongly advised this man to continue the treatment: for I felt that there might yet be some remnants of the disease. However, he would not, and

at once ceased treatment of any kind. For eight years the eyes were quite well. Toward the close of this time he again appeared before me, as the eyes were sore, he said. I found the condition of the eyes exactly the same as when he left eight years ago. The present trouble was a mild conjunctivitis from which he quickly recovered. I am sorry to say that during all these years he was very dissipated.

At the end of one year, that is, nine years in all since the treatment was stopped, he again appeared because his sight was failing. This time there was a choroido-retinitis, lying close to the ciliary processes, with a painless cyclitis in each eye. The *Combined Treatment* could not be given on account of his unwillingness to submit to control. Therefore I had to be content with the internal use of large doses of iodide of potassium. This has had a beneficial effect, but the vision in one eye is $\frac{20}{70}$ ($\frac{6}{24}$), and less in the other.

4. My fourth case is one of very severe Gonorrhœal Irido-Cyclitis with p. l. only: aqueous hazy and many posterior synechiæ, with exudation of lymph into the pupillary areas. Here atropine and leeching locally with mercury and the iodide of potassium internally were used for ten days with benefit. Then there was a return of the severe pain, and the pupil, which had dilated $\frac{2}{3}$, though irregularly, began to contract, an appearance due to the presence of active inflammation of the ciliary region.

I now added pilocarpin, giving it hypodermically, with immediate and marked benefit. The lymph deposit in the anterior chamber after the onset of the severe attack, resembled in form a lens dislocated into the anterior chamber. Under the *Combined Treatment* the eyes improved so much that the vision finally became $\frac{6}{9}$ ($\frac{20}{30}$), correctly though mistily. This latter condition

was due to the thin coating of lymph on the anterior capsule of the lens, which was still left. This only required further treatment to be fully removed. However, this he never returned to receive.

5. In November, 1900, a woman, aged 30 years, consulted me. It was a case of Conical Corneæ, and the conicity of each cornea was most marked. The vision was $\frac{8}{200}$. She had been repeatedly seen by oculists, but never any treatment given save the use of glasses and the recommendation of an operation. This latter had not been performed, as she was very unwilling to submit to any operation.

I now began my *Combined Treatment.* The results were as follows: in four months from the beginning of the treatment V. = $\frac{17}{200}$, again four months later, that is eight months from the beginning V. = $\frac{20}{200}$ ($\frac{6}{60}$). About four months later the vision was worse. Two causes were at work. First no treatment had been given, as she did not come, and also she had severely tried the eyes by much travelling and sightseeing. However, she again began the treatment in a regular way, and now May, 1902, though having gone through an attack of influenza in January, V. = $\frac{20}{100}$ ($\frac{6}{36}$), a decided and marked improvement. Her health, which at the beginning was poor, is now excellent, and her powers of endurance were greatly increased.

If in a long established and severe form of this disease such good results can be produced, though the treatment was not given a fair trial, I maintain, that if it be used in this disease in the beginning, the pathological process can be stopped and an improvement brought about, and if the treatment be persevered in, a good useful eye results. Whereas at present, in the beginning of the disease, the treatment is purely optical, and no attempt is *made to stop* its progress; and later on, when the eye

is much worse, an operation which is followed by a success that is neither uniform nor satisfactory.

In May, 1903, I had a note to this effect, that in the last year the pilocarpin injections were given very carelessly, from her own account. The vision at this state was $\frac{20}{100}$ ($\frac{6}{36}$), and hence apparently the corneal condition had remained the same. In May, 1905, that is two years later, she said that in this time she had taken no treatment, and besides had used her eyes a great deal. The result of this abandonment of the treatment has been very marked, as the vision is now only $\frac{16}{200}$. When she found out how much the vision had deteriorated, she was anxious again to begin the treatment. This I refused to do, and said that the only treatment that I could advise, was operative.

This case well exemplifies, I think, the value of this treatment in strengthening the corneal tissue, and thus giving rise to a flattening of the cone and a corresponding improvement in vision; and also what ought not to be forgotten, the decided change for the better in her general health.

I told her in 1903, that the improvement as shown by the vision of $\frac{6}{36}$ ($\frac{20}{100}$) could not possibly remain if she gave up the treatment; for the change in the corneal tissue was not great enough to be permanent. However, she has through her own rashness, given a good clinical demonstration of the correctness of my opinion. If she had but continued the treatment for two years longer, the conicity would have become so flattened, and the corneal tissues so closely approximating the normal, that this changed tissue could have held its own.

This case, however, has shown that this Combined Treatment has had a very powerful effect upon the nutrition of the thinned and attenuated corneal tissue; and hence well sustains my contention, that it is a

sensible, a rational proposal, to use my Combined Treatment in the first stages of conical corneæ. Also I may add, it seems to bear out my theory regarding the action of the Combined Treatment, and the reason of the suitableness of its use, in apparently diverse and non-related conditions and diseases.

Regarding these cases, it certainly seems as if I were justified in the following remarks.

The first case mentioned in this chapter, exhibited under the irregular use of pilocarpin an improvement, which in the light of later experiences, should have been much greater, had I used my Combined Treatment.

The second case narrated, clearly shows the great and lasting benefit of the persistent use of pilocarpin, given hypodermically, in long-standing disease of the eyes, and incidentally and markedly in the general rheumatic condition. I now feel sure that in this, the addition of the internal use of mercury and the iodide of potassium would have hastened the process of resolution. I was now only feeling my way, and had not yet worked out the more complicated and effective treatment to which I have given the name of the *Combined Treatment.*

The third case brings clearly to our notice the brilliant and rapid improvement through the addition of pilocarpin, used hypodermically. Here we see the gradual removal of long-standing and organized exudation, a most important and significant result.

The fourth case, which under ordinary treatment I have no hesitation in saying, would have, at the best, left the vision much and permanently impaired, showed under the Combined Treatment an immediate improvement, and I am confident that by persistence in the treatment, normal vision would have resulted through the removal of the exudate.

It is at this time that my mind recurred to an intract-

able affection of the eye, in which I had not yet had the opportunity of trying this treatment, viz., sympathetic ophthalmia. I felt convinced that it should be of signal benefit in this dreaded disease. Its subsequent success in the treatment of this disease has proved, I think, the correctness of my forecast.

CHAPTER III.

1. One case of Kerato-Iritis with Cyclitis. 2. One case of Chronic Irido-Cyclitis. 3. One case of Diffuse Sclero-derma with Iritis. 4. One case of Total Paralysis of Third Nerve. 5. One case of Sclero-Keratitis—all treated by the Combined Method.

1. On December 10, 1904, a woman, 50 years of age, consulted me about her left eye. She said the eye became inflamed in August, and had been under treatment since that date. The vision was the letter E of Snellen type at six inches. It was a case of marked Kerato-Iritis with Cyclitis. The corneal infiltrations occupied the middle third of the cornea. There was much general infection and pain, which at times was very severe. Under atropine the pupil dilated irregularly, showing many posterior synechiæ. The treatment I now prescribed was atropine locally, and internally mercury and the iodide of potassium. In two weeks the eye became quiet, there were left of course, a decided corneal haze and posterior synechiæ. The usual prognosis in regard to treatment was that the corneal haze might be slightly lessened, and that there might be fewer synechiæ; but that there would be a permanent decrease of acuteness of vision, and a tendency to a relapse.

In order to clear the cornea, and remove the exudate present in the tissue of the iris, I advised my Combined Tre[illegible]ith the confident expectation of having a g[illegible]or previous similar successes had shown [illegible]prognosis to be justifiable. However, the

complexion of the case was suddenly changed. Her house caught on fire during a winter's night, and the subsequent fright and exposure brought about a very severe relapse. The condition on my next examination was p. l. g., intense general infection, intense pain, infiltration of the central two-thirds of the cornea; the pupil but slightly dilated by atropine. Thus I had now to deal with a more severe type of the disease.

I now began my Combined Treatment. It was followed by the usual good results. I gave twenty-one injections in twenty-six days.

The result was that the inflammation was completely subdued, and has not up to the present showed any symptoms of a return. The course I have now mapped out is to continue the treatment, giving every four to six weeks a series of seven to ten injections of pilocarpin. If the patient will only continue it long enough, the result will be that the cornea will clear, and the exudate into the tissue of the iris and ciliary processes will be removed, in other words, a practically normal eye will be the outcome.

Such a prognosis could not be given with any other treatment in a case of this severity. Not only could the other modes of treatment not do this, but could not even with certainty remove the fear of a relapse, which my treatment can undoubtedly.

On April 4, the vision was $\frac{20}{200}$ ($\frac{6}{60}$), and the clearing up process is quite satisfactory.

July, the vision is now ($\frac{6}{60}$) $\frac{20}{200}$, much clearer, and a marked loosening of the iritic adhesions. However, as the haziness of the corneæ is not now very noticeable and the eye quite quiet, and the vision of the other eye normal with glasses, she has decided to stop the treatment, though its continuance she fully allows would give better sight.

In answer to her question,—Could I at a later date again take up the treatment for the purpose of clearing up the sight with good hopes of being successful?—I replied in the affirmative. Therefore, she now stops with the idea of beginning afresh when it better suits her convenience. At one time I should have hesitated to have answered thus; but my experience tells me that I can. However, the clearing up process will not be as rapid as if no intermission had taken place.

2. My second case is an unmarried woman, 58 years of age. In the Spring of 1896, the right eye was inflamed for one week. It then became quite quiet. At the end of one month the left eye became inflamed, and has had similar attacks on and off ever since. The right eye has also suffered during this time, but not nearly so severely. She consulted a specialist in the Spring of 1897. He used my Combined Treatment for seven injections. The eyes were quieter that Summer. In the Winter of 1897-8 there were, on and off, severe attacks of inflammation.

During the Summer of 1898, the oculist gave, or rather ordered to be given, thirty injections of pilocarpin. During these injections she had, she said, several attacks of inflammation of the eyes.

With my experience regarding this case, the Combined Treatment thus tried, failed because it was wrongly given. I have seen other failures in the use of this treatment for the same reason. She continued the use of iodide of potassium till November, 1898, when she consulted me for the first time.

The condition was as follows:—L. V. = no p. l., T −, a very shallow anterior chamber; the tissue of the iris infiltrated and covered with a dull, whitish exudation, which also involved the pupillary area. No details of *the tissue of* the iris and the pupillary area could be

made out, that is, a dull, greyish homogeneous mass covered entirely the iris and the pupillary area.

R. V. = less than $\frac{20}{200}$ ($\frac{6}{60}$), T +, halos at times, pupil contracted and margin held down by a thin exudation. A dull white patch of exudation showed in the pupil, and reached down behind the iris, apparently unattached to the pupillary margin. At the upper margin the same condition, but the exudation was smaller in size.

My Combined Treatment was begun at the end of the first week in November, 1898. Fifteen injections of pilocarpin were given.

December 16, 1898, R. V. = $\frac{20}{200}$ ($\frac{6}{60}$). She says the sight is clearer, and the halos are less marked. T. n. full. February 2, 1899, she has just returned for another series of injections after an interval of eight weeks. This interval was much too long, as so seriously diseased tissues had to be dealt with. The injections were begun, but discontinued in a few days as a very severe attack of follicular tonsillitis set in.

R. eye at once became painful and a little injected. T +. The two patches of dull whitish exudation, before mentioned, came out from behind the iris, and passing through the pupil, lay in the anterior chamber well down in front of the iris; but still attached at one end behind the iris.

This attack, the only one experienced since the beginning of my treatment, lasted a few hours only. With its cessation the patches of exudate again went back into their former position, and the eye became quiet. This attack has been the only one up to the present time. That is August, 1899, and seems, in some way, to have been connected with the attack of tonsillitis.

May 27, 1899, after the attack in February, the injections were again repeated, and continued on and off

up to the present time. Now R. V. = $\frac{20}{100}$ ($\frac{6}{36}$), and $\frac{20}{70}$ ($\frac{6}{24}$) one letter of; T. n.; L. V. = no p. l., T. n. full. The iris tissue in the left eye can, for the first time, be seen in some places. Where previously an uniform greyish membrane only could be made out, now the tissue of the iris can be comparatively distinctly seen.

She returned on August 7, 1899, for another series of injections, the first since those given in May, R. V. = $\frac{20}{70}$ ($\frac{6}{24}$), T. n., eye quite quiet since the last visit: L. V. = no p. l. The clearing up process in both eyes still progresses very favourably.

The left eye will, of course, never regain perception of light; but the unmistakable evidence of improvement in this lost degenerated eye, again aids in putting beyond dispute, the radical and far-reaching effect of this treatment.

With respect to this case I was more sceptical regarding the results to be got from my treatment, than any other I had yet tried it in. Fourteen injections were now given.

October 12.—No rainbow colors were seen for some length of time till October 7. Then the sight became misty, and sometimes worse than others, R. V. = not $\frac{20}{200}$ ($\frac{6}{60}$), T+, no pain, no redness. Ten injections were given, and also beginning with the first week of December ten more were given.

December 20, vision has been poor ever since October, T+, never at any time minus: halos more or less constant: no pain, no injection: patches of exudate in pupil smaller: V. = at no time $\frac{20}{200}$, and sometimes very poor indeed. No operation was considered advisable. A few weeks later, the vision is now p. l. g. only. She never returned to see me, and incidentally I learned that the eyes were no better.

This was a very disappointing result after such a

great improvement; but experience has taught me, that in these very diseased eyes, a marked improvement, the result of treatment, as in this case, may fade away, the eye being too diseased in certain parts to enable the improved condition to be retained.

3. My third case, a Jew, William D., aged 48 years, is a most typical case of Diffuse Scleroderma, with a slow Iritis in each eye. There are many very fine posterior synechiæ, and a thin covering of lymph on the anterior capsule of the lens. The sight is very poor.

He was put under the Combined Treatment the latter part of December, 1898. At the end of one and one-half years of treatment, the vision was decidedly better. As to the Scleroderma, in that there has been a steady uninterrupted change for the better, till at the end of that time it has reached a stage of improvement, which forms a striking contrast to the pitiable and apparently hopeless condition he was in when I began. I am aware that there are so called spontaneous cures. However, in this case, almost at once, a sense of easiness and looseness was felt about those joints where there had been a feeling of tenseness and stiffness with its attendant discomfort. A more extensive improvement was soon quite noticeable, whereas previous to the use of this treatment, there had not been the slightest sign of any change for the better.

I may mention that this patient had been carefully treated for five years or more, prior to coming into my hands, without any effect; on the contrary, the disease had progressed to the above mentioned typical type in spite of all efforts.

I would suggest that this treatment be tried in the different types of eczema, psoriasis, and kindred skin diseases.

4. My fourth case is one of total paralysis of the third

nerve. The specific disease was contracted four years ago, and had been under treatment since that date. At the end of this time there occurred this total paralysis of the left third nerve. The patient went to bed apparently in the usual good health. In the morning on arising, the eyes felt queer, and by nightfall, from what I can learn, the paralysis was complete, one week later I was consulted. After a delay of two weeks I began the Combined Treatment. I gave fourteen injections. At the end of the twelfth there was an increase in the movement upwards of the eyelids.

One week later, the injections now being stopped, the eyelid could be raised a full two-thirds of the normal, and the eyeball brought to the median line and held there. Three weeks after the first, the second series of injections, seven in number, were given. Diplopia is now at six feet. At any greater distance the vision is single.

Three weeks later there only remained a very slight drooping of the eyelid. Two weeks later, diplopia is not now made out till the object is at the distance of ten inches.

The progress after the use of the Combined Treatment seemed to me quite rapid, viz., in eight weeks from the beginning of the treatment no diplopia was noticed till a distance of ten inches from the eyes was reached. I have no notes since that date, as the patient did not put in an appearance.

5. My fifth case is one of Sclero-Keratitis in a woman aged 24 years, who consulted me in August, 1899. I found at the upper and inner quadrant of the eyeball, in the ciliary region, a very severe scleritis limited, and the patch of exudation large and heaped up, and deeply congested.

The adjacent cornea was infiltrated with a cloudy

opacity, up to and slightly beyond the pupil. There was much pain, photophobia, &c. I gave, for ten days, mercury and the iodide of potassium, and used atropine locally.

The severity of the symptoms was relieved, but the progress of the inflammation was not stayed. Early in September, 1899, I began the Combined Treatment. The scleritis was now more extensive, and the cornea was infiltrated almost throughout its whole extent. I gave pilocarpin hypodermically daily, in doses of one-sixth of a gram for two weeks; and then at intervals of 4 to 6 weeks, for seven injections, one each day. The iodide of potassium and mercury have also been used continuously.

The scleritis has traversed the whole ciliary zone, up to the point of the beginning of the inflammation; but under most favourable conditions. That is, the part first affected has been the most severely attacked, and every adjoining part taken in has been less severely inflamed, till finally when the disease again arrived at the inner and upper quadrant of the ciliary region, there was a blush only. Moreover, the previously affected parts have never relapsed.

In January, 1900, the Sclero-Keratitis was cured, but there was left a decided corneal haze, interfering very much with the vision, so that no letters could be read at twenty feet. The treatment was no longer necessary in regard to the scleritis; but it had to be kept up so as to clear up the cornea for visual purposes. This has been done, and the vision is now $\frac{20}{50}$ ($\frac{6}{24}$). The patient is now satisfied with this recovery, and has decided to stop treatment. The appearance of the formerly severely inflamed sclera is normal.

In February, 1902, that is one year later, the other, the left eye, was attacked with Sclero-Keratitis. It

was treated in the same way. In July the eye was perfectly quiet, and was quite free from any symptoms of inflammation.

The right eye was not affected, and its vision was a little better than when last seen. The patient had not visited me in the interval: she only again consulted me when the left eye became inflamed.

The prognosis in this form of Sclero-Keratitis is gloomy. It is stated in our best textbooks that the treatment is at best but palliative; that the disease is sure to relapse and to continue in this way for years, till finally vision is not only impaired or practically lost, but also ciliary bulging takes place, leading to marked staphylomatous changes.

Under my Combined Treatment there need be no such result. On the contrary a permanent curative effect may be secured. The result in this case appears encouraging and satisfactory, especially is this the case, when the fact that the right eye did not again become affected, when the left became involved, is taken into consideration. More than three years have elapsed since the recovery of the second eye, and so far there have been no symptoms of a relapse of any kind.

The history of the patient is tuberculous.

CHAPTER IV.

1. Several severe cases of Hypopyon Kerato-Irido-Cyclitis. 2. Two cases of Acquired Syphilitic Cyclo-Iritis and Hyalitis. 3. One case of Hyalitis of both Eyes—all treated by the Combined Treatment.

1. In regard to hypopyon kerato-iritis, I shall now bring forward cases of the most severe type of this disease. In other words, I shall deal with those forms which test the relative value of diverse treatments.

The ordinary types of hypopyon kerato-iritis, since I have used the Combined Treatment, give me no anxiety as to the favorable termination, so uniform and satisfactory have been my results. Satisfactory results mean a fully dilated pupil and a clear cornea, if the use of the treatment be properly continued; otherwise a slight corneal haze will be left.

I am now writing especially of three cases of the disease, in each of which the duration of time since the onset was so long as to allow the affection to become thoroughly seated, and included a severe cyclitis as well.

The infiltration in each case occupied the centre of the cornea, to an extent apparently as great and even greater than the pupillary area. The pus in the anterior chamber was large in quantity. The pupil was also bound down and did not dilate under the use of atropine. The eyeball was deeply congested, and the pain severe and long-continued.

The treatment always advocated and relied upon is the local; and internal, that is constitutional, remedies

occupy a decidedly secondary place. I shall not rehearse the list of these local remedies and operations, which is long and in many ways of great merit.

However, in the type I am speaking of, that is, those cases in which the corneal tissue is so extensively diseased, their use often fails to check the downward progress, or if it does, so tardily that great damage is the outcome.

The Combined Treatment is purely constitutional. The only other remedies which were used were dropping into the eye a four-grain solution of atropine once every day or second day, and flushing with a solution of permanganate of potash 1 in 2000. In some cases I have also dropped quite freely into the eye or applied to the everted eyelids a fifty per cent. solution of argyrol. These were used on account of the rather free conjunctival discharge. They are merely accessories, and nothing more; for in some cases, I have not used them and my results have been as good.

After beginning the Combined Treatment a change for the better shows itself. The pain is quickly relieved; the infiltration begins to exhibit a sharper margin, and the adjacent corneal tissue becomes brighter and clearer, and the pus in the anterior chamber lessens in quantity.

Moreover, the improvement once established remains. I mean no relapse takes place, and the progress towards recovery is uninterrupted. The exudate is removed, and the pupil dilates, and finally quite fully. The opacity of the healing ulcer gradually grows less in size and denseness, so that finally it disappears, or only a non-disfiguring haze is left.

The treatment has several excellent features, as the rapid relief of pain; the improvement of the diseased condition with greater certainty than by the other

methods, I fully believe; the gradual and uniform removal of the corneal opacity; and the absence of any pain associated with the treatment used.

Thus the eye again allows to be demonstrated the great effect that a group of remedies given internally, as mine is, can and does exert upon a very severe type of an acute disease with marked degenerative changes. Such powers are surely not limited to the tissues of the eye alone.

2. A man, aged 51 years, suffering from specific cyclo-iritis with hyalitis consulted me in August, 1901. He says that his eyes were severely inflamed for the first time in December, 1900. Then, he says, at the end of four weeks the vision was fairly good, and the left eye apparently the better. He says that the eyes got well quickly. At the end of six weeks they were seemingly quite well.

On February 4th, 1901, a second attack came, which only affected the left eye, and with the result that the vision became poor. The right eye was not inflamed, but he says that the sight of each eye gradually became worse. Up to the time of consulting me no severe attack had occurred; but at times the eyes were uneasy and the vision gradually getting less and less clear.

The condition of the eyes when he first consulted me was R. V. $= \frac{20}{100}$ $(\frac{6}{36})$; pupil active, but tags of posterior synechiæ, eye quiet; L. V. = no letters at twenty feet; pupil feebly active and in places posterior synechiæ. Each fundus was hazy, which condition was due to hyalitis. The use of atropine locally and the iodide of potash internally was prescribed. The irritation of the left passed away.

The Combined Treatment was advised. Early in September fifteen injections of pilocarpin were given.

October 8.—R. V. = $\frac{20}{50}$ ($\frac{6}{24}$); L. V. = $\frac{20}{200}$ ($\frac{6}{60}$). Eight injections were now given.

November 8.—R. V. = $\frac{20}{50}$ ($\frac{6}{24}$) and $\frac{20}{40}$ ($\frac{6}{12}$) one letter: L. V. = $\frac{20}{100}$ ($\frac{6}{36}$), the vision of each eye not being improved with glasses. The mercury produced marked ptyalism. It was stopped; but the iodide of potassium, given internally, was continued.

December 27.—Eight injections were now finished on December 7. No atropine has been used for some length of time. R. V. = $\frac{20}{40}$ ($\frac{6}{12}$) three letters: L. V. = $\frac{6}{36}$ ($\frac{20}{70}$).

January 27, 1902.—Eight injections ended on January 7. R. V. = $\frac{6}{12}$ ($\frac{20}{40}$) three letters and more clearly. L. V. = $\frac{20}{50}$ ($\frac{6}{24}$) two letters of.

March 2.—Last series of eight injections was given February 7. Both eyes V. = $\frac{6}{24}$ ($\frac{20}{50}$). The vision is not so good, probably due to a state of nervous prostration through family troubles.

April 12.—Eight injections were finished on March 1. R. V. = $\frac{6}{12}$ ($\frac{20}{40}$) four letters of: L. V. = $\frac{6}{24}$ ($\frac{20}{50}$).

May 29.—Last of a series of eight injections was given on April 28. R. V. = $\frac{6}{12}$ ($\frac{20}{40}$) four letters of: L. V. = $\frac{6}{12}$ ($\frac{20}{40}$) two letters of.

July 8.—Eight injections were finished June 7.

August 16.—Eight injections were finished July 12.

September 27.—Eight injections were ended September 2.

November 10.—Eight injections were completed in October. R. V. = $\frac{20}{40}$ ($\frac{6}{12}$): L. V. = $\frac{20}{40}$ ($\frac{6}{12}$).

Homatropine was now used, and the eyes were examined with the ophthalmoscope. In the right eye was still diffuse haze of the vitreous, but gradually becoming less dense: O. D. not clearly visible as to details; no disease of the fundus discovered, pupil active, no *posterior synechiæ*. L. V. = pupillary area becoming clear

of lymph, and still a few posterior synechiæ visible. The fundus details are not as well seen as in the right eye. The poor vision of the left eye is due to the exudate in the pupillary area, and not so much to the condition of the vitreous. Whereas in the right eye it is due to the haze of vitreous. His general health is excellent, and he says that he feels better than he has done for several years. The change in the appearance of his skin is very marked. At the beginning of the treatment it was dry, wrinkled, and parchment-like, and easily lifted into folds, as there was so little subcutaneous fat. The skin is now elastic, of a good color. He has gained fifteen pounds in weight. The improvement in his general appearance is so evident, that it is noticeable to a casual observer. When he consulted me he had a bald spot on the crown of his head. This spot is now covered with hair. This latter fact I mention to show the radical nature of the treatment upon the physiological condition of the system at large.

December 27.—Eight injections were concluded the end of November. R. V. = $\frac{20}{40}$ ($\frac{6}{12}$) : L. V. = $\frac{20}{40}$ ($\frac{6}{12}$); but the left is the clearer.

February 6, 1903.—Eight injections were finished four weeks ago. Each eye V. = $\frac{6}{12}$ ($\frac{20}{40}$), and $\frac{6}{9}$ ($\frac{20}{30}$) one letter of.

April 3.—Eight injections were ended March 1. Each eye V. = $\frac{20}{30}$ ($\frac{6}{9}$) three letters of.

May 9.—In April, eight injections were completed. He went to bed on May 8, feeling quite well, and on awakening about 5 a.m. noticed that objects were double. R. = the movements were normal; L. = divergent strabismus; but the eyeball can be brought to the median line. The eyelids are unaffected.

May 17.—Left eye, the movements inwards are a little beyond the median line.

May 24.—The movements are about normal.

May 31.—On extreme movement inwards there is a slight nystagmus if the eye be held in that position.

July 12.—Eight injections were finished in June. Five weeks ago I had again used mercury; but again had to stop its use owing to ptyalism. In the first week of June there was complete recovery of the partial paresis of the third nerve.

September 4.—Eight injections were completed five weeks ago. Both eyes V. = $\frac{6}{9}$ ($\frac{20}{30}$) one letter of.

November 13.—Eight injections were finished seven weeks ago. Both V. = $\frac{20}{30}$ ($\frac{6}{9}$) two letters.

January 4, 1904.—Eight injections were ended six weeks ago. R. V. = $\frac{6}{9}$ ($\frac{20}{30}$) three letters; L. V. = $\frac{20}{40}$ ($\frac{6}{12}$). Each eye is irritable.

February 29.—Eight injections were finished seven weeks ago. R. V. = $\frac{6}{9}$ ($\frac{20}{30}$) five letters of; L. V. = $\frac{20}{30}$ two letters of.

May 8.—Eight injections were ended seven weeks ago.

June 19.—Same number of injections were given, and finished as in May.

September 4.—R. V. = $\frac{6}{9}$ ($\frac{20}{30}$) three letters of, + ·50D sp. ⌒ + ·50D cyl. = $\frac{20}{30}$ ($\frac{6}{9}$ almost); L. V. = $\frac{20}{40}$, + ·50D cyl. axis v., $\frac{20}{30}$ ($\frac{6}{9}$) not as well as R.

November 20.—Eight injections were completed in September. R. V. = + ·50D sp. ⌒ + 50D cyl. = $\frac{20}{30}$($\frac{6}{9}$); L. V. = + ·50 cyl. axis v., $\frac{20}{30}$.

February 13, 1905.—The last treatment was given eight weeks ago. He has decided to stop all treatment. The vision of each eye is $\frac{6}{9}$ ($\frac{20}{30}$), the addition of + 3·00D sp. enables him to read with comfort and ease. The eyes are quite quiet, and he daily uses them a great deal without any discomfort.

2a. This patient, a man aged 26 years, consulted me

the first week in November, 1900. It is a case of acquired syphilitic cyclo-iritis with hyalitis. He contracted syphilis two years ago. He had been under treatment for the specific disease up to the time of consulting me, that is two years, having had given him under very careful supervision, mercury and hot baths, and also iodide of potassium.

One year before calling upon me his eyes began to trouble him, and have been much worse lately. Right eye is now quite quiet, but has had repeated and severe attacks of inflammation; pupil semi-dilated with atropine, and irregular and many posterior synechiæ: V. = counts figures at six inches. The poor vision is chiefly due to the vitreous haze.

Left eye has a severe attack of irido-cyclitis: V. = p. l. only, unable to count figures; pupil bound down by iritic adhesions; severe pain, not relieved by atropine and leeches which I used on my first visit.

On the third day I began my Combined Treatment. The eye quickly became easier, and in one week the pain was absent. The marked and diffuse haze of the vitreous is the chief cause of the poor vision.

In this case I have given the injections of pilocarpin as follows:—The number of the first series was fifteen, and the subsequent series were each in number ten injections, and were given one each day till completed. The intervals varied from three to six weeks.

His general health is, at present, poor.

December 26.—The vision, after the first series of injections, fifteen in number, given early in November, is as follows:—Under atropine R. V. = $\frac{20}{nil}$ + 4.00D sp. $\bigcirc$ +·50D cyl. – h. $\frac{20}{40}$ ($\frac{6}{12}$); L. V. = $\frac{20}{nil}$ +4.00D sp. $\frac{20}{70}$ ($\frac{6}{24}$) not improved.

January 8, 1901.—R. with the same glass V. = $\frac{20}{30}$ ($\frac{6}{9}$) badly. L. V. +4.50D sp. $\bigcirc$ + .50D cyl. – h. = $\frac{20}{50}$ ($\frac{6}{18}$) almost.

February 5.—R. V. = with the same glass $\frac{20}{20}$ $(\frac{6}{6})$ two letters of: L. V. = with the same glass $\frac{20}{40}$ $(\frac{6}{12})$ two letters of.

April 18.—R. V. = as before: L. V. = +4.50D sp. ⌒ + ·50D cyl. / 350° $\frac{20}{40}$ $(\frac{6}{12})$ four letters of.

May 21.—In the right eye there is still haze of the vitreous, but no floating opacities; in the left eye more vitreous haze than in the right, but no floating opacities.

September 26.—The patient went out of town after his visit in May, and only returned a few days ago. During this interval he has taken mercury and the iodide of potassium; but has of course, received no injections. Under atropine the vision is R. +2·0D sp. ⌒ + ·50D cyl. − h. $\frac{20}{30}$ $(\frac{6}{9})$: L. V. = +4.50D sp ⌒ +50D cyl. − h. $\frac{20}{30}$ $(\frac{6}{9})$ two letters of.

October 8.—Eight injections were finished October 5. Without atropine: R. V. = +1·50D sp. ⌒ +·50D cyl. − h. $\frac{20}{20}$ $(\frac{6}{6})$ nearly; L. V. = +2·00D sp. ⌒ + ·50D cyl. − h. $\frac{20}{30}$ $(\frac{6}{9})$ nearly.

The above was ordered for constant wear.

November 15, 1902.—He is now under the Combined Treatment again. In June, 1902, the treatment was stopped for a time, as he decided to do so. He is still taking the iodide of potassium. R. V. = with the same glass $\frac{20}{20}$ $(\frac{6}{6})$: L. V. = with the same glass $\frac{20}{20}$ $(\frac{6}{6})$ three letters of.

October 31, 1903.—The vision of each eye is the same as in 1902. No medicine has been taken for many months. The eyes have never suffered any relapse since he came under my care.

This man in the beginning, when the injections were given, used to feel faint and show rather alarming symptoms. In his case these symptoms were of longer continuance and more marked than usual. Here, as *also in other* cases where these symptoms were less

marked, as soon as the system came under the influence of the Combined Treatment, and the general condition of the patient consequently improved, all these alarming symptoms were no longer in evidence, though the dose was on the average larger.

Children, that is, those from eight to fourteen years of age, bear this Combined Treatment well.

This man's peculiar symptoms, I consider, were more due to the state of his liver than to the heart or any other organ. Where all the organs are presumably healthy, that is, where the disease of the eye, as sympathetic ophthalmia for instance, is not of necessity associated with any other than healthy conditions of the system generally, these alarming symptoms, if they occur, are of very brief existence.

The syphilitic poison is still present in this man's system, as shown by certain appearances of the skin. He realizes this, but will not submit to the control which the treatment entails. However, he is willing to take the injections at such odd intervals as he may select. The course he is now following is to take the iodide of potassium, on and off.

Before I begin this Combined Treatment in any case I always explain my routine, and also the length of time it will have to be given. In all of these obedience must be promised or I refuse to begin. Also, if some time after I have begun, the patient becomes remiss, I warn him, and if he will not obey, I stop the treatment; for otherwise discredit is brought upon the treatment, and its effectual use is much impeded.

This patient, though his eyes are so quiet and there have been no relapses since the beginning of the Combined Treatment, still I do not consider free from the danger of a return. Two causes lead up to this impression. He now leads sexually a dissipated life, and also

shows plain evidence that the syphilitic taint is still in the system. He may go on several years with the eyes remaining apparently well; but at the end of this time he may return with complaints of dimness of vision of one or both eyes, with no signs of any acute inflammation. This latter would mean that there is present a painless cyclitis and hyalitis. If he would only consent to have the treatment continued, a series of injections every seven weeks for an additional year or so, the hopes of a permanent recovery should be assured. Therefore, I shall not be astonished if he reappears, though the present results have been so satisfactory.

3. A case of hyalitis of both eyes. In October, 1902, a lady, aged 28 years, consulted me regarding an increasing dimness of the sight of both eyes, with severe supra-orbital pain over one eye. She says there have been a few floating opacities before the right eye since April, 1902, but the eye at present, is better than formerly. V. = $\frac{20}{20}$ ($\frac{6}{6}$) poorly +·25D cyl. axis v. = $\frac{20}{40}$ a little better, but always a slight dimness.

Left eye:—She says the floating opacities were first noticed about four months ago: V. = $\frac{20}{70}$ ($\frac{6}{24}$) two letters of, but a decided blur. The sight of the eye is gradually getting worse, and the floating opacities, and the cobweb like appearance, are more marked. Since the beginning of the diseased condition there has been an uneasiness of the left eye, or a dull pain, which is sometimes quite severe. She says that she has been subject to a severe supra-orbital pain for more than one year. Phenacetin has been frequently taken, on and off, to relieve the pain.

She says that she has been under the care of two oculists for four months. As the result of the treatment was not very satisfactory, a sea voyage was advised. *This was not* attended with any improvement in her *general condition*, or that of her eyes.

The present condition is in the left eye under the influence of homatropine, very many filmy floating opacities in the vitreous.

The Combined Treatment was now begun, and fifteen injections of pilocarpin were given.

October 31.—She is now suffering from an attack of the severe supra-orbital pain mentioned above.

November 10.—The fifteen injections of pilocarpin were finished on November 3. The supra-orbital pain is still severe at times. However, she feels it all the more as I have forbidden the internal use of any sedative. L. V. = $\frac{20}{50}$ ($\frac{6}{24}$) and $\frac{20}{40}$ ($\frac{6}{12}$) one letter of. She says that the sight is clearer, and the floating opacities are less noticeable.

November 26.—Ten injections of pilocarpin have been given, and were finished on November 18. L. V. = $\frac{20}{40}$ ($\frac{6}{12}$) and $\frac{20}{30}$ ($\frac{6}{9}$) quite clear.

December 9.—L. V. = $\frac{20}{20}$ ($\frac{6}{6}$) four letters of. The floating opacities are only seen at intervals; at other times none are visible to her. She says that the sight of the right eye is clearer, and that she can see further and with greater ease than before the treatment. There is now no pain or uneasiness while using the eyes, and the supra-orbital pain is absent.

She could no longer remain under my care on account of reasons of a private nature. I told her that I did not consider that the condition of the eye was sufficiently stable to allow the cessation of the Combined Treatment, with a certainty that the good condition would be preserved. I felt it would be safer to give further treatment. The eyes might, however, remain well, and have no relapse. When she left, she said that she felt more vigorous and energetic than she had for several years. There was certainly a marked improvement in her general appearance.

It appears that the cause of the inflammation of the vitreous was a very weakened condition of the nervous system generally, of long duration.

January, 1904.—I received a letter from her saying that the eyes had remained quite well, no sign of any relapse having shown itself, and that her general health was excellent.

In this case most thorough and careful treatment, prior to consulting me, had been followed with apparently no beneficial result.

Under my Combined Treatment a most satisfactory improvement, one might even rightly say recovery, had taken place.

This seemed to be a case of inflammation of the vitreous, with very slight, if any, involvement of the surrounding structures.

The excellent and rapid recovery made, again emphasizes the superiority of the Combined Treatment in affections of the vitreous.

CHAPTER V.

1. ONE CASE OF CYCLO-IRITIS, PROBABLY SYMPATHETIC. 2. ONE CASE OF ACUTE SYMPATHETIC OPHTHALMIA. 3. ONE CASE OF SYMPATHETIC OPHTHALMIA IN A MORE ADVANCED STAGE—ALL TREATED BY THE COMBINED METHOD—ALSO GENERAL REMARKS.

In 1900, a man, 35 years of age, consulted me. Eight years ago, that is in 1892, his left eye had been injured with a splinter of wood, and was excised by me. The injury to the eye had occurred eight weeks before consulting me. The eye was removed the day he first came to see me on account of the condition of the uninjured eye. The right, the uninjured eye, showed marked symptoms of sympathetic irritation at times. The eye became quite quiet after the removal of the other, the injured eye.

He says, that for four years after the removal of the eye there was no trouble of any kind in the eye. After this date, there were attacks of inflammation of the remaining, the right eye, which were short-lived and always went quite away, so he informed me.

His physician advised him to consult me, but he would not.

When the present attack came on he was threshing. The eyes became inflamed in the same way as in previous attacks. He thought that the cause was the dust. It got worse, and at the end of ten days the vision became quite hazy. Before the patient came to see me the physician in charge had used atropine, and the pupil was partly dilated but adherent, and thin lymph

covered the capsule of the lens: aqueous hazy: V. = $\frac{20}{70}$ ($\frac{6}{24}$). The eye is, at present, quiet. I advised my Combined Treatment. Three days later an attack of inflammation occurred, and the vision became p. l. only: T +, no tenderness. My Combined Treatment was at once begun, and he says that the attack was not as severe as the preceding one.

January 11, 1901.—R. V. = $\frac{20}{70}$ ($\frac{6}{24}$), not improved by glasses; pupil fully dilated with atropine.

January 13.—R. V. = $\frac{20}{50}$ ($\frac{6}{18}$).

January 17.—R. V. = $\frac{20}{40}$ ($\frac{6}{12}$) three letters of.

The anterior capsule is covered with lymph deposit with radiating lines, and dense round-shaped deposit of exudation in its centre. The deposit is clearing.

January 24.—R. V. = $\frac{20}{40}$ ($\frac{6}{12}$) + ·50D sp. $\frac{20}{40}$ ($\frac{6}{12}$) clearer. The fundus is hazy. This appearance being due to the lymph on the anterior capsule of the lens: T. n., pupil fully dilated with atropine: eye quite quiet.

March 7.—On the anterior capsule of the lens there are only scattered spots of exudation. V. = $\frac{20}{40}$ ($\frac{6}{12}$) and $\frac{20}{30}$ ($\frac{6}{9}$) several letters of: eye quiet.

The pilocarpin injections have been given. Each series was eight in number, and the injections were given one each day; and the interval between each series was three weeks.

March 20.—R. V. = $\frac{20}{30}$ ($\frac{6}{9}$) without atropine.

April 28.— R. V. = $\frac{20}{20}$ ($\frac{6}{6}$) almost; T. n.

May 4.—R. V. = $\frac{20}{20}$ ($\frac{6}{6}$) eye quite quiet.

June 1.—A sharp attack of inflammation.

June 4.—The pupil dilated at once under atropine above and not below.

June 6.—The pupil is fully dilated.

July 10.—Since the last attack twenty-five injections of pilocarpin have been given.

September.—The treatment has been continued.

February 7, 1902.—No atropine has been used for some length of time: V. = $\frac{20}{20}$ ($\frac{6}{6}$), p. a. He has gone on with the treatment since September, coming up from time to time, at stated intervals, to have the injections given.

August 26, 1903.—I have not seen this patient since February, 1902. His eye at this latter date, having become quiet and apparently well, he decided no longer to continue the treatment, though I had plainly told him that longer treatment was necessary, in order to put the eye in a safe condition. However, as his sight was good he would not, being a very obstinate man, and untaught by experience.

He was also especially cautioned by me to return, if at any time the eye became inflamed or the sight dimmed. He did not do so, and when he appeared in August, 1903, the condition of the eye was very grave.

From February, 1902, when he stopped the treatment of his own accord, up to February, 1903, that is one year, he said that the eye had been quite quiet and comfortable in every way.

In February, 1903, he said that the first uneasiness or sign of inflammation of the eye showed itself. From that date onwards, he says there were attacks of inflammation, which were short-lived, and that the eye always recovered its vision. Lately, however, after each attack the sight was worse. Since this last one the vision had not recovered, and was now, and had been for some time, p. l. only.

The following is the state of the eye at the present time. V. = p. l. only; T + 1; pupil partly dilated with atropine, which had been advised by his physician at the beginning of the attack: lymph on the anterior capsule of lens: iris tremulous: tissue of iris and pupillary

area covered with lymph. There was also the beginning of a slight conicity of the anterior part of the eye. He said that this last attack had been very severe.

He implored me again to try the treatment. I told him the condition of his eye was hopeless; but I finally yielded to his entreaties. The result was that no improvement took place. Thus the doom of irreparable blindness is his lot. This deplorable condition is, I am fully persuaded, the result of his own conduct, and could have undoubtedly been avoided, that is, he could have retained the eye, as in February, 1902, for years and in fact for his lifetime, had he but followed out my advice.

That the right eye should have become inflamed so long a time after the removal of the left, seems peculiar.

My opinion is, that since the excision there have been warning attacks of coming mischief which he heeded not, and besides being slight, did not recollect. However, even with this explanation, the progress of the disease was exceptionally slow. However, I regard it as a form of Sympathetic Ophthalmia.

2. My second case came to me November 25, 1899.

At this date I saw in consultation with a physician, a boy, aged 12 years.* His right eye had been wounded by a penknife. It was a penetrating wound extending well up into the cornea from just at the ciliary region. As it was a wound apparently at the border of the "dangerous zone," not in it, an attempt was made to save the eye. The progress for two months was satisfactory. The left eye showed no symptoms of sympathetic irritation during this length of time.

On January 24, 1900, sympathetic inflammation plainly showed itself, having given very slight evidence the day

* Referred to me by Dr. Stevenson, Toronto, who, subsequently *frequently saw* the patient with me.

previous. The eyeball became injected: pupil oval and sluggish: the type No. 3 easily read, the letters being clear.

Under atropine the pupil dilated roundly, except below, where the pupil was not as fully rounded: media quite clear, and O. D. normal, except a slight general injection.

Right eye was excised January 25, 1900.

January 26.—Pupil fully dilated, and the eye is quiet.

February 2.—The pupil is a little oval in contour.

Examination with the ophthalmoscope showed a hazy fundus due to the condition of the aqueous, but no sign of optic neuritis.

February 3.—Punctate keratitis made its appearance. Atropine, mercury, and the iodide of potassium were continued.

February 4.—Punctate keratitis is less marked: clear view of fundus: slight general injection only of the whole optic disc.

The Combined Treatment was now used, that is, pilocarpin was added to the previous treatment. This boy was the youngest patient I had ever given this treatment to, in fact, I had never previously given it to anyone save an adult, and so I proceeded cautiously. For the first twelve injections of pilocarpin, that is, the first two weeks, the effect was not felt, though I gave as much as gr. $\frac{1}{6}$ at an injection. I felt that there was some reason for this, as gr. $\frac{1}{6}$ is a large dose for a boy twelve years old.

There was only a slight transitory dryness of the throat due to atropine, and the constitutional effect was scarcely perceptible. However, by more careful pressure upon the canaliculi, I was able to do away with any symptoms of the constitutional action of atropine. As a consequence, gr. $\frac{1}{10}$ of pilocarpin had a full effect.

The pupil was, at the end of two weeks, only one-third dilated, whereas at the beginning of the attack it was fully and roundly dilated.

The rapid narrowing and contracting of the pupil, meant a rapid increase of the inflammatory process in the iris and ciliary region. Lymph was now pouring out into the pupillary area, and binding down and infiltrating the iris and ciliary processes, and covering the capsule of the lens.

A period of four weeks has now elapsed since the excision, and three weeks since the beginning of the pilocarpin injections, that is, since the Combined Treatment was begun.

The eye has been quiet during this period. However, on this date an acute attack came on. The condition was as follows:—Much general injection; T + 1, severe pain; keratitis punctata throughout the whole cornea, in fact a well developed condition of sympathetic cyclo-irido-keratitis; vision p. l.

The usual prognosis in similar cases has always been very gloomy, in fact, in the case of a child, hopeless or almost so.

February 26.—The eye is quieter; T. n., full.

March 2.—This acute attack lasted three days.

The eye is still improving, and the vision is better. The Combined Treatment was still kept up and the eye was improving, till March 23, when there came on a very acute exacerbation with severe pain; T + 1, p. l. only.

March 31.—The treatment has been continued. The eye is now quieter, and he can make out a face with some difficulty. The iris tissue which was much swollen and pushed forwards during the attack, is now flatter and adherent.

From this date, March 31, up to September, the

Combined Treatment has been continued. During this time an improvement, thorough and unbroken by any symptoms of relapse, has resulted. The vision has also gradually improved, till on September 6, the vision is $\frac{10}{20}$ less two letters of. The absorptive process so-called, has gone on satisfactorily, so that the pupillary margin has been released almost throughout its whole extent. The pupil is dilating slowly, due to the amount of exudation still present in the tissue of the iris and adjoining parts.

This is the first case of fulminating sympathetic ophthalmia that I have had the opportunity of treating by this method of mine. The result at the end of eight months fully convinces me that I shall again have, for all practical purposes, an eye normal as regards vision and its general condition.

This boy has taken internally, ever since January 1, 1900, gr. v. doses of iodide of potassium, and gr. iii. of bromide of potassium, three times daily, and of the bichloride of mercury gr. $\frac{1}{24}$ twice daily before eating. Pilocarpin has been given hypodermically gr. $\frac{1}{10}$ every second day for five months. During the last three of the eight months, at the end of every two weeks, I have given an injection once every second day for six injections. His general health is good.

So far I have given no description of the fundus; for I could not see its details, so hazy was it by reason of the deposit of lymph on the anterior capsule of the lens.

Later on in the Autumn of 1900, my ophthalmoscopic examination showed a fundus apparently healthy; but a very peculiar looking optic disc. However, so hampered was I by the deposit of lymph, that I could make out no reliable details.

Early in 1901, I got a better view of the fundus, and was able to see a disc unlike any I had ever previously

seen. The optic disc was covered with an exudate abruptly limited to it, and not extending in the slightest degree into the surrounding tissue. This exudation gave to the optic disc the appearance of being covered with a dense, dull, whitish deposit, resembling closely the dull, white color of putty. The only sign of a vessel was a short and most minute red line, just visible, running vertically up and down; but at the centre of the disc, no trace of one. Away in the outer field, close to the ciliary processes, were a few spots of choroido-retinitis.

One year has now elapsed since the above was written, and during this year the process of removal of the exudate has gone on so satisfactorily, that many more vessels can be made out, and the margin of the disc has become quite ragged looking.

In the beginning of 1904, the process of removal was still being continued, and the capillaries were becoming quite numerous, and the vessels at the centre of the disc much less covered with lymph. The spots of choroido-retinitis were being removed, leaving only disturbed pigment to mark their places. Atropine, a four-grain solution, has been used without interruption from January, 1900, up to January, 1904. Then it was stopped, and the pupil contracted to one-third larger than the normal size. At first it was a little eccentric; but later central and fairly active. The cornea is now clear, and has been so for some length of time. The anterior chamber is normal and also the tension, as it has been since September, 1900, and prior to that date.

The capsule of the lens still has a flaky, opaque look in places, with quite clear spaces between. This exudate is still undergoing removal. There is a marked contrast between the white color of the disc and the vessels, that is, there is an absence of the natural lustre and color of the disc, though it is for all practical pur-

poses normal as to its function. The vision before the eye was wounded was slightly myopic in each eye, as I had tested the eyes. They were normal otherwise in every respect.

The vision is now, with the myopic correction, as follows: – 1·00D sp. ⌒ –·50D cyl. $\frac{20}{20}$ ($\frac{6}{6}$) and J. 1, easily and comfortably. The mercury and the iodide of potassium have been regularly given, save now and then a short intermission. The hypodermic injections of pilocarpin have been continued.

During the year 1901, a series of six injections was given, one every alternate day, and after an interval of two weeks was again repeated.

During the year 1902, the same course was pursued, but the interval was made three weeks. During the year 1903, the interval was lengthened to four weeks.

In 1904, I have given the six injections one every day, and the interval has been six weeks. The treatment will thus be administered till I have finished.

Since September 1900, the improvement has been steady, unbroken by the faintest sign of any relapse or irritative process, and has been equally marked in every part of the eye.

I have now, December, 1904, finished my course of the Combined Treatment of this eye, which has thus lasted from January, 1900, to December, 1904, a period of almost five years.

The present condition is as follows:—The eye is quite quiet: T. n., pupil a little dilated and oval, but fairly active: no haze of capsule except towards the periphery, the central haze, even by oblique illumination, having disappeared. In the extreme outer fundus is to be seen the faint scars of the choroido-retinitis. The optic disc has ragged edges, and a line of pigment along its outer edge.

On direct examination with the ophthalmoscope, the disc is seen to be very vascular but scarred, giving a whitish effect. The delicate lustre and vascularity of the disc have not returned, and, of course, never will.

In my opinion the eye is now quite safe, that is, will retain its present condition. The vision is now $\frac{6}{6}$ $(\frac{20}{20})$ with the addition of $-$ ·50D sp. to the former glasses. This is a normal increase in a boy, growing as rapidly as he is. The boy, now 17 years of age, is strong, healthy in every way, in fact, the picture of health, and a decidedly more robust looking boy than when I began my Combined Treatment in 1900.

When the optic disc was seen at the beginning of the onset of the sympathetic inflammation it was normal, except a slight injection. When again seen as the eye was recovering, it was abnormal with a most peculiar appearance, as narrated above.

This seems to show that the communication by which this inflammation travels, is by the ciliary and optic nerve paths. There may be other routes, but these are two, and of the two the ciliary is the more preferred.

The removal of the exudate has gone on uninterruptedly for four years. The inflammation could not be stopped at once; but it was quickly gained the upper hand of, and that power has never been lost. It has ended in a removal of exudate from the tissues, unexampled in any other treatment ever employed or known. This is to me of very great significance, not only in regard to the eye, but also in reference to *diseased tissues generally.*

In 1901, a young man presented himself with an injured eye, apparently an exact counterpart of the injury to the boy's eye, whose case I have narrated. I hesitated regarding the removal, but finally decided not to; for though I had this other eye before me as a warning,

still I did not consider myself justified in excising the eye. I allowed it to remain. The final result was quite satisfactory, and no trouble has as yet shown itself.

3. Another case of sympathetic ophthalmia in a man aged 49 years, who first consulted Dr. Trow, February 19, 1898. I then saw him in consultation with Dr. Trow, who is an oculist, a colleague of mine at the Eye and Ear Infirmary and General Hospital, Toronto.

The left eye, the injured one, was a shrunken lost globe from an injury, July 22, 1897. On December 22, 1897, the right eye became affected and was quickly highly inflamed, associated with an agonizing pain. The man said that for four days there was no perception of light. Atropine was used and the eye became quieter, only again to be similarly attacked two weeks later. The sight did not again return.

The condition of the eye at this consultation was p. l. only, in fact very feeble indeed, tension decidedly minus: pupil occluded and excluded, and the iris tissue filled with lymph, showing the very severe cyclo-iritis from which the eye has been suffering, and still is. The left, the injured eye, was removed.

We looked upon the right, that is, the sympathetically inflamed eye, as being in such a desperate condition, that the question of treatment seemed only a forlorn hope. However, we decided to use my Combined Treatment. I did not then have the same experience as I now possess, or I am certain that I should have urged the use of the treatment with a much greater assurance of success.

The treatment was energetically given from February, 1898, to October, 1898, a period of eight months. The result was that the attacks of inflammation ceased in a short time, and the eye became quite quiet. The tension was normal, and the perception of light was good.

In November, an iridectomy was tried, and failed. Influenza now attacked him, and he was not again under treatment till September, 1899. The condition of the eye was now so favourable, that the lens was removed.

In April, a de Wecker's scissors operation was performed, resulting in a good clear pupil. The optic disc was atrophic in appearance, that is, it was a disc which had had an optic neuritis, and now the changes resulting in this process of recovery had ceased, leaving a disc with a whitish, rough looking background to a great many vessels, all of which were free from lymph.

After the operation, the man returned home a distance of 1,500 miles. He was not again seen till August, 1900, a period of fifteen months, during a portion of this time he took strychnine internally.

In September, 1900, the sight of the eye was tested. The vision was +2·00D sp. $\subset$ +2·50D cyl. $\frac{6}{9}$ ($\frac{20}{30}$) and adding +3·00D sp. J. 1, easily.

In June, 1904, that is, almost four years since the above date, in a letter received from him, written by himself, he says "that his vision is as good in every way as in September, 1900."

The result of the use of the Combined Treatment in these two cases of sympathetic ophthalmia, I might even say three, appears to me to have been most satisfactory.

I do not think that the favourable termination can be ascribed to, or associated with, the word "coincidence," a term continually on the lips of those who pay only a superficial attention to, or have very little confidence in, the treatment of disease. I do even go further in my statements and say, that the recovery of the boy's eye is a proof of the assertion, that the Combined Treatment seems to solve the problem, to answer the question in the affirmative, "is there no treatment able to stay the

ravages of sympathetic ophthalmia?" It does more: for it also removes the exudate, and restores functional power to the tissues thus acted upon.

Nature does, now and then, as we all know and have perhaps seen, stop the ravages of this disease, and also limits it in severity and extent after a fashion and in a way unknown to us. But now I do assert, that in the Combined Treatment, we have so powerful an aid to such a physiological process, that by its use no matter how ineffective the efforts of nature may appear to be, good results ensue, as demonstrated in the boy's case especially, and strongly supported by the other two.

CHAPTER VI.

1. THREE CASES OF RETRO-OCULAR NEURITIS. 2. ONE CASE OF ALBUMINERIC NEURO-RETINITIS, WITH REMARKS. 3. ONE CASE OF CEREBRAL SYPHILIS. 4. ONE CASE OF DISEASE OF THE EYES FROM MASTURBATION—ALL TREATED BY MY COMBINED METHOD.

1. My first case, one of retro-ocular neuritis, a woman, aged 36 years, consulted me, July, 1903. She said up to October, 1896, her eyes gave her no trouble. At this time she had an illness, and was operated upon. In October, 1897, she returned to her employment. Headaches of the right eye and right side of head began. An oculist was consulted, who ordered glasses and rest; and said that there was inflammation of the right optic nerve.

In December, 1897, she saw another oculist, who ordered glasses and told her that there was inflammation of the right optic nerve. In three years later she again saw the same oculist. At this time the vision was much worse, and the headaches of the right eye and side of head were very severe. From 1900, she went on working, the sight and headaches gradually getting worse.

In May, 1900, she saw another oculist. Then the right eye was V. = no letters at 20 feet: L. the sight was not as strong as usual, that is, she could not see as quickly or as steadily as formerly. The left eye and side of head began to have the same pain and sensations that the right had at the beginning.

When she consulted me the condition was as follows: R. V. = p. l. and no more, that is, not bright, simply knew that a light was present: L. V. = $\frac{20}{20}$ $(\frac{6}{6})$ +0·25D cyl. axis v., $\frac{20}{20}$ $(\frac{6}{6})$ well.

Headaches affecting the whole head were always present, but especially severe and agonizing at times, as after using the eyes the whole day. In 1897, R. V. = $\frac{20}{50}$ $(\frac{6}{24})$, she told me that the sight has been gradually getting worse.

The prognosis was undoubtedly grave, as she had been treated energetically with the usual remedies. I had not as yet been able to treat a case of this kind, and consequently, though I began the use of the Combined Treatment, considering it the most effective and reliable remedy, still I could not give any positive prognosis. However, I could say that I fully expected a decided amelioration of the symptoms. With my present experience, I could then have given a favourable prognosis, could have spoken with much more assurance.

Right optic disc had an uniformly injected appearance on a rather pale background: left optic disc the same appearance as the right, only less markedly, in fact, it could almost pass for a normal disc.

Fifteen injections of pilocarpin were now given. September 28, 1903, the series was finished five weeks ago, and another series of eight injections was now given.

R. V. = $\frac{20}{200}$ $(\frac{6}{60})$: L. V. = $\frac{20}{20}$ $(\frac{6}{6})$ as before.

November 27.—Six injections were finished the first week in November, and another series was now begun.

January 11, 1904.—The last series was given four weeks ago, and another series was now administered.

R. V. = $\frac{20}{70}$ $(\frac{6}{24})$: L. V. = $\frac{20}{20}$ $(\frac{6}{6})$.

February 20.—No injections have been given since

the last date, viz., January 11, as the patient did not come.

R. V. = $\frac{20}{50}$ ($\frac{6}{24}$) three letters of + ·50D cyl. axis vertical $\frac{20}{50}$ ($\frac{6}{24}$) and No. 8 fairly easy.

She now desired to stop the treatment for a number of reasons, which she gave me, and though I fully stated the risk in doing so at the present time, she finally decided to carry out her intention. She said that she felt very well indeed, better than for years; had no headache, and could do her work with ease and with no after ill-effects. This work consisted of much continuous reading and writing. It was in doing this very duty that previously she had suffered so keenly. Her general appearance was much improved, and she seemed in every way to be in excellent health.

I heard again from her after the lapse of about nine months, and she said that her condition was in every way the same as when she had last seen me.

Many excellent papers have been read upon this form of optic neuritis; but in all these dissertations, treatment has received but scant notice, and then merely to reiterate the old remedies. In fact, the impression is given that it is almost by accident, and certainly not from the prominent place that treatment should occupy, that even this passing and perfunctory mention has been made.

If she could have continued under the Combined Treatment, I feel assured that the vision would have gone on improving, till finally the normal acuteness would have been reached.

1a. My second case of retro-ocular neuritis, is a tall robust looking man, aged 41 years. Previous to February, 1904, his health had been excellent, and his eyesight good for all distances.

The beginning of February, 1904, he was suddenly

seized with an attack of influenza, his physician told him. For several days he had not felt well. Early one morning he became very ill. He said that the following day the various articles in the room seemed to be moving. The eyesight became so dim that he could recognize with difficulty a person known to him, a few feet away. In three days he said that the sight was almost as good as ever.

The sight, however, began very soon to lessen in acuteness, and severe pains in the eyes and head were also complained of. These pains were very severe for one month, he says, and then subsided. As his sight was slowly but surely growing less clear, he consulted an oculist. He was given glasses and was told that the sight would clear. He did not think that it was necessary to give any further treatment.

In about two months the patient again consulted him, as the vision was gradually becoming dimmer. In spite of the treatment prescribed, his vision has been gradually failing.

On consulting me, October, 1904, the vision was as follows :—R. V. $= \frac{20}{200}$ ($\frac{6}{60}$), No. 18 at six inches, and sometimes No. 16; L. V. $= \frac{8}{200}$, No. 20 at six inches. Each optic disc was normal, save a slight general paleness. The fundus was quite normal in appearance. A large scotoma was present in each eye. Since the first month he has not suffered from pains in either eyes or head.

I advised the Combined Treatment, to which he at once and willingly agreed, as the condition of his eyes was causing him great anxiety.

I gave him daily one injection of pilocarpin for twenty-one days. Each injection was gr. $\frac{1}{4}$ of pilocarpin, and a very full constitutional effect was obtained. The treatment began in October, a few days after he consulted me.

On November 15, R. V. = $\frac{20}{50}$ ($\frac{6}{24}$) and $\frac{20}{40}$ ($\frac{6}{12}$) two letters of: and L. V. = $\frac{20}{100}$ ($\frac{6}{36}$).

On December 1, R. V. = $\frac{20}{40}$ ($\frac{6}{12}$) and L. V. = $\frac{6}{24}$.

Fifteen injections of pilocarpin were now given. When he left to return home, he was strictly enjoined to reappear for another series on January 12, 1905, an interval of less than four weeks: for I considered that a very high degree of activity of effect must be sustained in order to have a continuous improvement. He did not do so. He remained away till February 16. His vision was exactly the same on his return as when he was last examined, viz., R. V. = $\frac{20}{40}$ ($\frac{6}{12}$); L. V. = $\frac{20}{50}$ ($\frac{6}{18}$), the last examination being on December 1. In addition, not only had he disobeyed me in regard to the date of returning, but also had taken his medicine very irregularly. I informed him that if he again disobeyed my instructions I should refuse any longer to treat him.

I may state that when administering this treatment, if my directions are not properly followed out and the patient gradually becomes very careless, and if, after warnings, my rules and regulations are not paid attention to, I abruptly break off all professional connection. I return only on the express understanding that all my rules shall hereafter be scrupulously observed.

It is necessary to be very strict: for if latitude be allowed, either partial or non-success is the result. Thus during this long interval the eyes had only retained the improvement made, and had not apparently gained at all. However, from his report what did occur was, that the vision did improve after he went home, but that for a short time prior to his return, a gradual failure of vision was evident. This testimony brings out, it appears to me, the value and direct action of the Combined Treatment.

I now gave fifteen hypodermic injections of pilocarpin.

On April 15, he again returned to take another series. This interval was of four weeks duration.

The vision was as follows:—R. V. = $\frac{6}{9}$ ($\frac{10}{30}$) and $\frac{20}{20}$ ($\frac{6}{6}$) a few letters of: L. V. = $\frac{20}{30}$ ($\frac{6}{9}$).

He feels very well indeed, and has gained twelve pounds in weight.

I now gave ten injections of pilocarpin.

September, 1905.—I have continued the series of injections up to the present date. I am going to give his last series of injections. I now cease the Combined Treatment as his vision is normal, and the condition of retro-ocular neuritis has given place to one of health. A careful examination seems to justify this conclusion. His general health is excellent.

1b. A third case of retro-ocular neuritis is a married woman aged 53 years, who consulted me April 13, 1905.

R. V. = no letters of Snellen type at twenty feet. Sixteen years ago I treated this eye for a severe attack of kerato-iritis. A decided corneal haze was left, which markedly interfered with vision. I then said, she tells me, that the vision would always be defective. The present condition is a diffuse and well marked haze of the cornea and old iritic adhesions. The eye is quiet. T. n.

For many years the eye has given no trouble, and the vision has only slightly improved. The field is normal and she says that she has never found the peculiar conditions, which I shall narrate of the left eye, present in the right.

The history of the L. eye is as follows:—Up to four weeks ago the sight was quite good, the same as it has always been, but since that date there has been a gradually increasing dimness of sight which has gone on increasing. She has had several attacks of influenza, but none lately. One week ago, for the first time,

she noticed that she only saw one-half of an object. It is the inner vertical one-half she could see and not the outer. The vision is $\frac{6}{9}$ ($\frac{20}{50}$) with − ·50D cyl. and ∖ 50° $\frac{20}{20}$ ($\frac{6}{6}$): adding + 2·50D sp. No. 3 a good range. There is a loss of the vertical outer half of the field: the pupil is active: optic disc much injected and slightly hazy at the edge. She says that for the last year she has felt a great want of energy and an increasing tendency to mental and physical languor.

I ordered the iodide of potassium.

April 15.—The vision is as above, but not so quickly or clearly.

April 20.—She feels better, but says that the eyesight is poorer. The vision is now no letters of Snellen type at twenty feet, and not improved by glasses. There is now a large central scotoma.

May 1.—The condition is the same as regards the field of vision, the visual acuteness, and the condition of the optic disc.

The Combined Treatment was now begun.

May 29.—Twenty-one injections of pilocarpin were finished May 24.

R. V. = $\frac{20}{200}$ ($\frac{6}{60}$): L. V. = $\frac{20}{100}$ ($\frac{6}{36}$) and $\frac{10}{70}$ one letter of, and says the blind spot is less thick.

June 5.—R. V. = $\frac{20}{100}$ ($\frac{6}{36}$): L. V. = $\frac{20}{100}$ one letter of and $\frac{10}{70}$.

July 4.—Ten injections were ended June 28. R. V. = $\frac{20}{70}$ ($\frac{6}{36}$): L. V. = $\frac{20}{70}$ ($\frac{6}{24}$) and $\frac{20}{50}$ ($\frac{6}{18}$) one letter of.

She says that the blind spot is much thinner.

Ten injections were now begun, and were concluded July 26.

September 27.—She did not put in an appearance till to-day. The reason given was that I was away part of the time, and she misunderstood the date that she was return. She says that the sight has greatly improved.

R. V. = $\frac{20}{40}$ ($\frac{6}{12}$) not improved by glasses, and the letters do not fade away: L. V. = $\frac{20}{50}$ ($\frac{6}{24}$) − ·50D cyl. axis in 50° out 20° $\frac{20}{40}$ ($\frac{6}{12}$) not improved. However, the letters soon fade away, but return after resting the eye. The scotoma is much thinner. I shall continue the series of injections, giving in each series seven to ten, till the full visual power returns in the left, and by that time expect to have almost even quite normal vision in the right eye.

In this patient we have very different pathological conditions in each eye, and thus are we permitted to have demonstrated the simultaneous effect of the Combined Treatment upon these conditions. This effect ought to be regarded, I claim, as another verification, satisfactory and convincing, of my contentions and conclusions.

I have selected these three cases of retro-ocular neuritis, as they seem more fitting than some other varieties of this disease, which I have had under my care, to test the special value of this Combined Treatment, and to be able more fully to exclude the term "coincidence," if it were thought that it could be applied to the result of the treatment used.

2. I was called in consultation by a physician, in a case of albuminuric neuro-retinitis in a woman, but lately confined. The urine was scanty and almost all albuminous, and the head pains severe. The Combined Treatment was agreed upon, and was given by myself. The following was the result. At the end of three weeks a normal amount of urine was passed, with a very small percentage of albumin, a cessation of the headaches, and a decided lessening of the neuro-retinitis.

The woman felt so well that she went home. The physician was gratified. However, when I wished to continue the treatment, so as to produce a permanent

effect through tissue change, my efforts were not seconded. To him the relief was all that could be looked for or desired.

This opinion of physicians cannot be wondered at, when in a well known book upon the eye there is a sentence as follows in regard to the inflammation of the vitreous:—"As in other vitreous changes, if the general condition permits it, a sweat cure may be tried, either by means of a Turkish bath or with jaborandi."

In answer to this I beg to say, that between the Turkish bath and the Combined Treatment there is no semblance in regard to curative power. It shows pointedly that the true action of the Combined Treatment had not been grasped; for sweating and ptyalism, that is, the free secretion of saliva, are only symptoms of the proper action of the treatment, and intrinsically nothing more.

That sweating by external means, as hot baths, &c., is a treatment of itself, or an adjuvant to certain methods of treatment, is acknowledged; but to compare the effects so obtained, with the radical and far reaching results of my Combined Treatment, is, from my point of view, to compare a remedy with one so very much its superior, that there is in reality very little similitude.

The Turkish bath has never and could not produce the changes that pilocarpin and mercury and the iodide of potassium have. The effect of the bath is very superficial: and in this Combined Treatment, to heighten the perspiration either by the bath or by drinking hot water and thereby to increase the effect of the treatment, is an altogether wrong conception.

The minds of those who think thus, are wholly taken up with the idea of relieving one organ by the increased activity of another. They do not connect with the Combined Treatment, that which is its essential feature, viz.,

tissue change; whereas my use of this treatment in various diseases of the eye, and incidentally in diseases of other organs, has emphatically shown to me its power to bring about radical change of tissue by restoring to health markedly diseased tissues.

3. In a case of cerebral syphilis, where I was called in consultation, the agony the man suffered was extreme, and no effort up to that time made, had been able to alleviate it. However, under the Combined Treatment his life was made endurable; in fact, comparatively comfortable for the few weeks he lived. In this case, I said that it was impossible to save the man's life. The treatment did greatly mitigate his sufferings, and ward off convulsive seizures, as I felt it could.

4. A man, aged 25 years, came to me July, 1899, with the following history. One year ago the vision of each eye was quite good. In September, 1898, a blur came over the sight of the left eye.

In November, 1898, the right became similarly affected. An oculist, whom he saw, said the nerve of each eye was affected.

In February, 1899, the right eye became worse, again improved and again relapsed into a worse state than previously. The condition at my consultation was as follows:—R. V. = no reflex, barest p. l. in the extreme outer field, T. n. full. It seemed to be a condition of extensive hæmorrhage into the vitreous, with presumably an affection of the fundus. There was simply a dark reflex, and no other condition could be made out. The lens was clear.

The eye was quiet and had never been injected nor painful, simply a gradual and increasing dimness of sight, till it became blind. The eye is quite quiet.

L. V. = $\frac{20}{70}$ ($\frac{6}{24}$) +·75D sp. $\frac{6}{9}$ ($\frac{20}{50}$) a few letters of, under homatropine. Without homatropine V. = $\frac{6}{9}$ a

few letters of, and not improved by glasses: uniform vitreous haze: of O. D. and fundus a blurred appearance due to the vitreous haze: no optic neuritis: each pupil is normal in activity.

After getting a full history, I diagnosed the condition of the eyes to be due to the practice of masturbation. I accused him of such a practice and he acknowledged it. He had never previously been asked any such question. I decided to put him under my Combined Treatment. My prognosis was that the left eye should decidedly improve: but as to the right eye, I could not promise anything, for I felt that its condition was hopeless.

September 7.—A series of seven injections was given.

October 30.—A series of seven injections of pilocarpin was again given.

January 4, 1900.—L. V. = the same as before, but the vitreous haze is less marked. A series of seven injections was again given.

March 1.—L. V. = $\frac{6}{6}$ ($\frac{20}{20}$) less three letters of, the vitreous haze is less marked. A series of seven injections was now given.

May 7.—A series of seven injections was now finished. He says R. V. = p. l. a shade better in the extreme outer field.

August 28.—L. V. = $\frac{6}{6}$ ($\frac{20}{20}$) less one letter and still clearing: R. V. = same as in May.

October 1.—A series of seven injections was given. The vision of each eye is the same.

November, 1900.—He now says that two weeks after his return home, the sight of the right eye suddenly showed a marked improvement. R. V. = $\frac{20}{70}$ ($\frac{6}{24}$). There are large floating opacities in the vitreous, due to the breaking up of a large and long existent hæmorrhage. O. D. and the fundus are normal as far as I could get

a view: L. V. = $\frac{6}{6}$ ($\frac{20}{20}$), and the vitreous is almost quite clear. In the right eye there have been two slight returns of the hæmorrhage; but since December 1, no relapse of any kind. The Combined Treatment is still being continued.

May 6, 1901.—R. V. = $\frac{20}{50}$ ($\frac{6}{18}$) and $\frac{20}{40}$ ($\frac{6}{12}$) two letters of: L. V. = $\frac{6}{6}$ ($\frac{20}{20}$) and the vitreous is clear. The Combined Treatment is still being continued.

September 2.—R. V. = $\frac{20}{40}$ ($\frac{6}{12}$) three letters of. The fundus appears to be healthy: but the floating opacities make it difficult to examine the region of the ciliary processes. As we know, inflammation and changes of the ciliary processes and adjoining structures are often associated with a diseased state of the vitreous. The floating opacities are smaller. L. V. = $\frac{20}{20}$ ($\frac{6}{6}$) and fundus and media are normal.

November, 1904, he wrote to me and said that his sight was as good in every way as when he ceased his attendance in September, 1901. I wished him to come to see me, but he was unable to do so, and hence I could not verify his statements. However, I feel that they are correct, as he was reliable.

The result seems to me very satisfactory as to the left eye. As to the right, I was much surprised at the outcome: for a change took place which I did not anticipate. And it also shows the necessity of persistence in treatment, when an improvement, though small, is taking place. Had I been treating the right eye with an expectation of recovery of sight, I am certain that I should never have persevered for such a length of time without any very apparent improvement.

However, as we know, the very time we think of giving up is often the very time doggedly to stay on, especially when using and relying upon a remedy like the Combined Treatment, which has shown such pow of influencing diseased tissues.

CHAPTER VII.

1. One case of Corneal Opacities the result of Phlyctenular Keratitis. 2. One case of Hereditary Specific Keratitis. 3. One case of Atrophic Condition of the Optic Nerve in a boy with Hereditary Specific Disease, with subsequent Hereditary Specific Kerato-Irido-Cyclitis. 4. One case of long-standing Central Choroido-Retinitis of one eye with threatened changes in the other—all treated by the Combined Method—also General Remarks.

1. In July, 1900, a boy, aged 14 years, consulted me. Each cornea had a number of nebulous spots from severe attacks of phlyctenular keratitis. The first attack was at four years of age, and the last at ten years old. None has occurred since then. The nebulæ are central, and those of the left eye the denser. There has been no improvement in the sight since the last two years, or even longer.

I ordered the Combined Treatment, but could not promise any marked improvement, as I had not then had sufficient experience. However, I did expect a decided improvement in vision.

R. V. = $\frac{20}{70}$ ($\frac{6}{24}$) not improved by glasses: L. V. = $\frac{20}{70}$ ($\frac{6}{24}$) not improved by glasses.

November 8.—Two series of injections of pilocarpin have been given. Both eyes V. = $\frac{20}{50}$ ($\frac{6}{18}$) three letters of.

December 6.—Third series of injections has been finished. The vision is $\frac{20}{50}$ ($\frac{6}{18}$) and $\frac{20}{40}$ ($\frac{6}{12}$) guesses at.

January 4, 1901.—Fourth series of injections is completed. V. = $\frac{20}{40}$ ($\frac{6}{12}$) three letters of. He can now see

to read easily, and also well enough at a distance to suit him. Therefore, he has stopped his treatment. If he had only continued, I have no doubt that the vision could have been still further improved. This is a non-specific case.

2. October, 1904, a young girl, 9 years of age, was brought to consult me. It is a case of well-marked hereditary keratitis in each eye. There are typical Hutchinsonian teeth. Two years ago the eyes became inflamed. She has been treated by oculists up to the present time. During these two years the eyes kept getting worse. There is a marked corneal infiltration with much general injection and photophobia. There have been up to the present time constantly recurring attacks of inflammation of each eye, associated with pain, lachrymation and photophobia, and decreasing acuteness of vision. R. V. = $\frac{10}{200}$; a much heaped-up central corneal infiltration, and general injection of the whole eye; L. V. = counts fingers at six inches; dense corneal infiltration thicker in some places than others.

This patient was put under the Combined Treatment. Fifteen injections were given. Then on November 27, a second series of seven injections was given. After this series she went home. She was to return in six weeks. However, she did not return till September, 1905, a period of nine months. R. V. = $\frac{12}{200}$. The eyes are quite quiet and no corneal vascularity present. The corneal infiltration is lessened much more than the vision would indicate. The child is much better in every way, and the eyes have been quiet since she left nine months ago. Ten injections of pilocarpin were now given, and she is to return in five weeks.

November 22.—Ten injections have just been finished. R. V. = $\frac{12}{200}$: the heaped-up appearance is greatly lessened, but there is yet a raised look to the infiltration

occupying the centre of the cornea: L. V. = $\frac{20}{200}$: nebulous condition of cornea is not so marked. Hereafter the improvement in vision will be more noticeable, as the infiltration is so much thinner. The general health is excellent, and the eyes are quite quiet.

3. A boy, aged 15 years, consulted me in 1902. His condition at that time was as follows:—Left eye was excised at three years of age, following inflammation which left a shrunken globe. As to the right eye, he said that the sight was poor, and had been for a long time. The media were clear: O. D. quite pale. He has hereditary specific disease, and I consider that the atrophic condition of the disc is due to this. I have given him the iodide of potassium, which has been taken regularly with no perceptible improvement. R. V. = $\frac{20}{50}$ ($\frac{6}{24}$) not improved by glasses.

After he had taken the iodide for more than one year, the eye suddenly became inflamed, and quickly developed into a very acute kerato-irido-cyclitis, which is also hereditary specific. I dropped atropine in the eye once daily, and began the Combined Treatment. This occurred in September, 1904. The eye rapidly improved. At the end of two months it relapsed, but the attack was not severe. Since that time there has been no inflammatory attack. V. = $\frac{20}{70}$ ($\frac{6}{24}$).

There is now, March, a marked central corneal nebula and a few posterior synechiæ. He is still under the Combined Treatment. He will continue to use it until the central nebula fades away. This I am anxious to accomplish, for I hope as a result of this treatment, by increasing the vision beyond its original acuteness, to show how good its effect has been upon the atrophied optic nerve, as well as upon the other inflamed parts. The condition of the eye is at a standstill: but I shall keep him under observation and hope later on, again to

treat the eye. Owing to his bad conduct he could not any longer be treated, and hence I have to wait.

4. A man, aged 38 years, consulted me in November, 1901. For twenty-five years he has suffered from severe pain in the left side of his head and the eyeball: of late years this pain has become very severe. At the present time he cannot do his work properly. Twenty years ago he knew for a certainty that the sight of the left eye was not as good as the right, and now it is very much worse.

The right eye is also more uncomfortable than it used to be, and he says that at times there is a central blind spot, which appears and disappears and again reappears.

R. V. $= \frac{20}{30}$ $(\frac{6}{9})$ +2·00D cyl. axis ⌣ 15° $\frac{20}{20}$ $(\frac{6}{6})$.

L. V. $= \frac{20}{200}$ +1·50D sp. $\frac{20}{100}$.

Up to and surrounding the yellow spot for some distance, is a well-marked and apparently old choroido-retinitis with much pigment scattered throughout it. From the appearance the sight would seem not to exceed p. l. The severe pain seems to radiate from the diseased condition as a centre.

It is difficult to believe this, for the choroïdo-retinitis is evidently old, and no signs of any activity are to be seen. But as this is the only diseased portion of the eye, and as he knows from testing that the sight of this eye has been affected for years, and as he has always had pain in the eye, yearly getting much worse, there is no other conclusion than that the diseased eye is the seat of the pain.

So severe a pain associated with, and arising from, such a condition is very rare, if not unknown, in my experience.

He has for several years been under the care of oculists. Each one was astonished at the amount of vision that the eye possessed, and could not assign any reason for the pain. He was even told that the condi-

tion of the fundus was congenital, and that no pain could possibly arise from it. The cause of the pain was assigned to the stomach by oculists, and no treatment of any kind, save that of nature, was advised. He feels as if he would soon have to give up all work. I gave him iodide of potassium, and advised my Combined Treatment. He was quickly put under the treatment, having agreed take it. In fact he said that he was willing to undergo any treatment if he could only get relief. I also at once ordered the glasses, which an additional test had shown me were correct.

The injections were fifteen in number to begin with, one given every day. They have been continued up to October, 1905, at the rate of a series of seven injections, one given daily, with intervals between the series of four to six weeks.

January 26.—L. V. = $\frac{20}{200}$ +1·00D sp. $\frac{20}{50}$ ($\frac{6}{18}$) one letter of.

March 30.—L. V. = $\frac{20}{50}$ ($\frac{6}{24}$) one letter of, $\frac{20}{40}$ ($\frac{6}{12}$) one letter of. Now floating specks are seen by him where before it used to be an uniform black spot.

May 4.—L. V. = $\frac{20}{70}$ ($\frac{6}{24}$) clearer than before, $\frac{20}{50}$ ($\frac{6}{18}$) two letters of, $\frac{20}{40}$ ($\frac{6}{12}$) one letter of, $\frac{20}{30}$ ($\frac{6}{9}$) one letter of, and he notices that objects are clearer and steadier.

Right eye is much less uneasy. The general nervous condition is better.

July 7.—L. V. = $\frac{20}{50}$ ($\frac{6}{18}$), $\frac{20}{40}$ ($\frac{6}{12}$) first letter of, $\frac{20}{30}$ ($\frac{6}{9}$) first letter of.

August 10.—L. V. = as above, though he feels so much better, still there is pain all the time and sometimes severe: but the pain is undoubtedly less than it used to be.

October 19.—L. V. = $\frac{20}{50}$ ($\frac{6}{18}$), $\frac{20}{40}$ first two letters of, $\frac{20}{30}$ ($\frac{6}{9}$) first two letters of. During the latter part of August up to the present time, the pain and general

symptoms became worse. This state seemed to be caused by working long hours in a refrigerator, the temperature being 40° F., and also reading more than usual.

November 30.—He is now taking more care of himself. L. V. = clearer and letters more even than before: but says it is so difficult to keep the eye fixed on a letter till he makes it out, as it disappears so quickly. There is pain, on and off, especially if he reads much.

Only specks are noticed before the left eye. The big blind spot is now small, whereas at the beginning it covered all the sight except the inner field.

February 22, 1904.—V. = clearer, and now there is no uneasiness on looking at the letters.

April 10.—Objects are now more natural, whereas formerly the letters were uneven and seemed to move.

July 19.—L. V. = $\frac{20}{40}$ ($\frac{6}{12}$) first three letters of, and $\frac{20}{30}$ ($\frac{6}{9}$) first two letters of.

December 5.—Eyes are much freer from pain, and general condition better. L. = $\frac{+\cdot 50\text{D sp.}}{+\cdot 50\text{D cyl.}}$ axis horizontal, $\frac{20}{40}$ ($\frac{6}{12}$) and $\frac{20}{30}$ ($\frac{6}{9}$) two letters of.

March 20.—Eyes bear much more use than six months ago, with much less uneasiness. When he first came he was quite bald as to the top of his head. To-day he asked me to look at the growth of hair, which is certainly marked. His barber first drew his attention to the fact that there was a growth of hair beginning plainly to show itself.

September, 1904.—L. V. = $\frac{20}{40}$ ($\frac{6}{12}$) and $\frac{20}{30}$ ($\frac{6}{9}$) first two letters of. Still pain if the eyes are not used with care; but of course it is very slight compared with what it used to be.

L. V. = $\frac{+\cdot 50\text{D sp.}}{+\cdot 50\text{D cyl.}}$ axis horizontal $\frac{20}{30}$ ($\frac{6}{9}$) first three letters of. I ordered glasses. R. as it is. L. as above.

December 20.—The letters with the left eye are clearer and more even. The eyes can now do a good day's work without any pain, but if a good deal of reading is indulged in in the evening, there is apt to be pain. His general vigor, he says, is as good as when he was in the best of health. The growth of hair on the top of his head is now most evident, in fact becoming thick.

He will be under the treatment for some time longer till the remnant of pain is gone. He is now a strong vigorous man, able, as he says, to cope with any business worry, and feels quite well.

He now tells me that at about twelve years of age, while coasting down a very steep hill he met with a severe accident. His nose was broken, and his eye received a severe blow. After this the sight of the eye began to grow dim, and the pain, now so very severe and destructive to the well-being of his nervous system, began as an uneasiness in the eye and nose. Prior to this the sight was quite good, as he proved to me. This seems to clear up the mystery, and shows that an injury in the yellow spot region, as a result of the accident, laid the foundation of the subsequent degenerative changes.

It must be recollected that no treatment was ever given the condition of the eye from the day of the accident till he saw an oculist, and then as my notes point out, in a very imperfect way.

May 7, 1905.—A series of seven injections have been given every six weeks. L. V. = with glasses $\frac{20}{30}$ ($\frac{6}{9}$) and $\frac{6}{6}$ ($\frac{20}{20}$) four first letters of. He says that the eye is quite easy, and no pain unless it be used at close work for a long time.

September 10, 1905.—The injections have been continued as before. L. V. = $\frac{20}{20}$ ($\frac{6}{6}$) with glasses.

A few more series of injections of pilocarpin will be given, so as to remove all uneasiness. If a curative

process with the removal of pain had occurred without such a restoration to normal conditions as to be accompanied by a most distinct and expected improvement of vision, the Combined Treatment might have been stopped one year ago. But this near approach to the normal function of the diseased part entailed a much longer use of the treatment, the duration of which can only be gauged by one symptom, that is, the absence of pain and uneasiness after protracted use of the eyes. This stage is almost reached.

I consider the result of the Combined Treatment in this case to have been instructive, satisfactory, and a test, which strongly upholds the good opinion of this treatment so repeatedly expressed by me.

October.—A series of seven injections are just finished. For the last year there has been a gradual increase of the dose of pilocarpin, and in the last two series of injections he was able to bear a larger hypodermic dose than ever before, viz., gr. $\frac{1}{2}$. This is most exceptional.

This latter amount is now needed to bring about as full a constitutional effect as one year ago gr. $\frac{1}{4}$ produced. A full constitutional effect implies that as large a dose as can be comfortably and safely borne is, of course, used. The ability to take a larger dose, after a more or less lengthened use of the treatment, must be looked upon as a most important, a decided tribute to the worth and staying power of the Combined Treatment. That this increase of the dose is associated with an increased activity of the treatment in regard to the disease, is a natural—a legitimate conclusion.

I have already stated my theory of the mode of action of the Combined Treatment. The hyperactivity of the physiological circulation of the nervous system organs and tissues of the body thus produced, finally puts all parts of the body into such smooth functional running

order, that a dose, which at one time stimulated the system to such a degree that the functional capabilities were at first unable to bear that increase, can now be almost or fully doubled; because owing to the magnificent condition of the body generally, these functional powers can bear to be so increasingly stimulated.

Thus what has seemed to me a desirable object to attain in medicine, appears now to be practically illustrated. That is, that great ends could be arrived at, great curative powers could be exerted in regard to disease, if one were only able to arouse, direct, sustain, and regulate the physiological activities of the whole body.

These activities are by nature especially and pointedly directed to the diseased or weak parts. Increased physiological activity being Nature's mode of cure, the so-called spontaneous cure, the Combined Treatment apparently being able, to a certain degree, to call this into being, thus becomes a powerful lever in the curative process of disease; but of course, much more effective in some affections than in others.

CHAPTER VIII.

GENERAL REMARKS UPON—1. CERTAIN CORNEAL DISEASES. 2. IRITIS. 3. IRITIS IN A GENERAL WAY. 4. DISEASE OF THE CILIARY REGION AND CORRESPONDING SCLERA AND EPISCLERAL TISSUE. 5. CYCLITIS WITH IRITIS AND DISEASE OF THE VITREOUS AND KERATITIS PUNCTATA.

1. In many of the books written upon the diseases of the eye, there are an admirable grouping and description of the various diseases of the cornea. The treatment given is also well arranged. However, the internal treatment is always dismissed with the advice, "Pay attention to the general health." The chief attention is thus given to the local treatment, with a very cursory notice of the internal.

In the mildest types this plan will answer; but these mild cases never test the innate strength and differential power of any treatment. In those forms which do, I have reference to acute corneal ulcers, the central ulcer with hypopyon, abscess of the cornea, and all the different shades and intensity of corneal inflammation, in all of these without the least reserve, I beg to say that the Combined Treatment is superior.

At first I pursued this purely constitutional treatment with forebodings, but after many successes, with a freedom from anxiety as to results, which with any other treatment I have not experienced.

Where a deeply-seated ulcer of the cornea with onyx or hypopyon is quickly put past the dangerous stage by a constitutional treatment, unaided by any local remedy except the dropping into the eye of a solution of argyrol

50 per cent., or permanganate of potash 1-2,000, one must give, having the whole diseased condition before his eyes, a very favorable consideration to the remedy. And when one finds the nutritive, rather physiological, process so thorough, that the leucoma or nebula, which is always left, instead of being plainly evident as in the usual treatment, is but a delicate nebula, getting daily less, then again one must give it increased consideration.

This is true of the Combined Treatment, as I have frequently proved in these test cases. In critical cases where the local remedies are selected with misgivings, owing to the doubt as to their respective merits, I use the Combined Treatment with the full and assured belief that it is the most powerful and reliable remedy.

In some of the minor diseases of the cornea, where the curative process is lingering, I use the Combined Treatment so as to hasten the result.

Another reason why I should ascribe this power to the Combined Treatment, is evidenced in the improvement of the curvature in conical cornea as already demonstrated. This improvement can only come through the greatly increased activity of the nutritive changes in the cornea, as the treatment is constitutional, and no local remedies are used save a weak solution of eserine.

In those cases of keratitis punctata, in which the deposits aggregate into larger deposits, as you know, the smaller corneal opacities will disappear, leaving the larger and denser ones. These latter are often about the corneal centre, and thus the vision is seriously impaired. The Combined Treatment has an excellent effect, as it quickly thins and removes them, giving improved, and if persevered in, good vision.

In certain cases of corneal ulceration with a good deal

of conjunctivitis, I use locally a 50 per cent. solution of argyrol alone or an additional lotion of permanganate of potash 1-2000.

2. The history of its effects regarding the inflammation of the iris is satisfactory. The adhesions, posterior synechiæ, the lymph on the anterior capsule of the lens, which form and remain in severe or neglected iritis, are irremediable by the usual local and constitutional remedies. I mean that the vision is for ever impaired.

With my Combined Treatment this does not occur. These exudates are removed, and a normal or practically normal vision is again given to the eye. Those relapsing attacks of iritis so irritating to the patient, and so trying to the oculist, may and do occur. This recurrence is the exception, and when it does occur is not severe, and is quickly put an end to by a little longer use of the Combined Treatment. Locally atropine is used once every day or second day.

The numerous remedies for the relief of pain, the operations to prevent relapses, and also to improve the vision, are all fulfilled and more than fulfilled, that is, rendered unnecessary, by the action of the Combined Treatment. Relief is also more quickly and permanently given.

In gouty and rheumatic iritis, which is so intractable, the Combined Treatment has a most salutary and lasting effect.

3. Speaking of iritis in a general way, it matters not the kind of iritis or cyclo-iritis, whether it be acute, chronic, slow, gouty, rheumatic, with hypopyon or without, gonorrhœal, specific or non-specific, tuberculous, benign or fulminating sympathetic, *i.e.*, by these two latter terms I mean sympathetic inflammation in all its forms, the Combined Treatment gives relief, with finally, freedom from the disease. And this freedom

is associated with such a condition of the media and tissues as to give in the full majority of the cases, the vision previous to the onset, and in the remaining very fair, or at the least an improvement.

Of course these remarks do not apply to cases in which the destructive process has been allowed to go too far before the Combined Treatment was used. This observation I have exemplified the meaning of in a case already narrated.

The least severe of these cases may only require treatment from one to two months, whereas the severer forms require from one to several years.

This treatment is willingly submitted to by the patients even for long periods, so evident to them is the benefit resulting from its use. The favourable results of the Combined Treatment of sympathetic ophthalmia ought to have great weight as a verification of these conclusions.

4. I now wish to take up the diseases of the Ciliary region and corresponding Sclera and Episcleral tissue.

Episcleritis, Sclero-keratitis and Sclero-iritis, all these diseases are almost synonymous with the terms recurrent and incurable. Their treatment is ever said to be at the best but palliative. I do acknowledge that even with the Combined Treatment their course is obstinate and recurrent; but I do also emphasize the fact that these recurrences are less frequent, less severe, and do early cease, and that this result is sure to come.

Moreover, the sequelæ, as clouded cornea, &c., are so influenced, as finally to be disposed of. The usual local remedies, except atropine now and then, or sometimes not all, are used.

5. Cyclitis and Cyclo-iritis with disease of the vitreous and Keratitis punctata are, we know, intractable, even *in the* ordinary forms, and in the worst cases, it is the

accepted opinion, that no treatment seems to have any effect. The Combined Treatment tells a different story and one much more encouraging. In the worst, the true test cases, the correct and persevering use of the Combined Treatment brings about a recovery from the disease so thorough and lasting, that it may be termed a cure. Cure is a word not yet adopted by those of our profession, who are, in regard to the value of treatment, so cynical and full of unbelief. However, I do feel that the Combined Treatment justifies the use of this word in many eye diseases where previously the name palliative could only be employed.

This may seem too enthusiastic, even more, almost irrational, but have I not a right to suggest it? Everything seems possible, one is inclined to say, when the dreaded disease, sympathetic ophthalmia, has been curbed, and the pouring out of its widespread exudate not only stopped, but also the exhibition of a greater and more important power, the removal of this exudate.

For again it is said in regard to this intractable disease, sympathetic ophthalmia, prognosis in the mildest form must be cautiously given, and in the severer and most severe, hopeless is the term advisedly used.

CHAPTER IX.

General Remarks.

In many diseases of the Choroid and Retina, I am sure that the Combined Treatment ought to be of decided service; but I have not yet had opportunities of trying it on a sufficiently extensive scale to be able as yet to formulate my conclusions.

The case of albuminuric neuro-retinitis was encouraging and also those of other affections of the optic nerve; and also a few cases of defined exudation into the choroid and retina. I should like to try it, and should feel fairly confident of a good result, in retinitis pigmentosa.

In affections of the optic nerve centres, arising from the poisonous action of various substances, it should be efficient.

In syphilitic affections of the choroid and retina, I do feel from my experience and impressions, that it is the best remedy.

In detachment of the retina, and in those changes connected with progressive myopia, my results have not been satisfactory. However, it has certainly done as well as any other form of treatment made use of.

In cases of retro-ocular neuritis, I have had good results. The cases which I have given the histories of, have shown this. Others also could be mentioned, where the conditions were the same and sometimes less serious. In the many articles upon retro-ocular neuritis, most excellent divisions of the disease have been given,

and details of all the probable causes. The treatment, however, is always the same, and too often labelled futile.

In hereditary specific Keratitis and Kerato-iritis my experience, though limited in regard to the use of the Combined Treatment, is as far as it goes satisfactory, and taking into consideration my experience with other modes of treatment, I feel that I am now enabled to give a prognosis, that the result of treatment will be successful, and also that the treatment will evidence its power by quickly controlling the pain, photophobia, lachrymation and the other attendant symptoms of this inflammation, and by plainly limiting the area and severity of the disease in the eye.

In the diseases of the vitreous so diverse, arising from so many causes and associated with so many diseases, the Combined Treatment has been effectual and superior to any other.

In diseases of the nervous system, as locomotor ataxia, I have very limited experience. In one very desperate case in which physicians had tried and were powerless to mitigate the disease, I did use it, but with the proviso that it was too bad a case to be a proper test. There were beneficial results for a time. Later on, when some unfavourable symptoms showed themselves, the physicians advised its cessation; for they felt that the Combined Treatment had lost its power or these unfavourable symptoms could not have arisen. This conclusion is wrongly taken, and should so impress them, if it were viewed in connection with diseases of the eye. In these latter, I speak as I do, being able to see the diseased tissues, and to recognise progress, good or bad, in all its stages, in that so full and searching an examination can be made with the ophthalmoscope.

However, in these very cases, if I had to judge of a favourable change from symptoms alone, I should often have ceased my treatment, feeling that no headway was being made. But as I was able to observe closely and accurately, I did persevere, and through this came the proof so plain, that the long tried patience and faith of the patient were rewarded with good results.

Herein, let me remark, is the reason why the physician should pay attention to the oculist when he speaks of the favourable results of constitutional treatment in disease of the eye. Also when the physician is told to persevere in treatment, why he should do so. He ought to. He must know that his methods of diagnosing disease, and of grouping symptoms so as to give a prognosis either as to the present condition or as to the results of treatment are crude, and of necessity must be, when compared with those of the oculist upon which he founds his conclusions in regard to constitutional disease as shown in the eye, and the result of its treatment.

As physicians often have poor results and non-permanent improvements in many structural diseases of the nervous system, I beg to offer the suggestion, that as the Combined Treatment has acted so favourably in the diseases of the eye in all its varied and delicate structures, it should be given a patient hearing and trial.

There was a second case of specific locomotor ataxia in which the treatment given by the physician had not been productive of any improvement, in fact there was a marked deterioration. I was asked to take this case in hand, as he suddenly developed diplopia, and did so. The Combined Treatment brought about a marked improvement, as was confessed by the physicians. Here again I asked its continuance, but again did their *hesitancy* and apathy allow the patient to drift away

from me. The improvement remained for a time. I said that it could only last for a few months unless the treatment were persisted in, and later on as I forewarned, the disease did begin to advance. After a time he was again sent to me; but now so advanced were the structural changes that I refused to take the case in charge, for I was convinced that it was hopeless.

Of this I am assured that in many syphilitic affections of the nervous system, especially if seen early, the use of the Combined Treatment should give good results, where at present the treatment made use of gives, as a rule, only temporary benefit at the best.

When the Combined Treatment has produced the structural changes in disease of the eyes that have been demonstrated in many cases, it is consistent to say that its use should be persevered in. But I do not suppose that I should look for much support from physicians when oculists themselves are so indifferent.

I have often remarked that as this Combined Treatment has shown such unexampled good results in syphilitic affections of the eye as evidenced by the removal of exudate of long duration and apparently well organized, it deserved at least that it should be properly tested, and with a feeling of hopefulness as to its worth in syphilitic affections of the nervous system especially.

In some forms of neuritis, localised and general, the latter known as multiple neuritis, the use of the Combined Treatment should be found not only satisfactory, but also able to influence the disease, where the usual treatment has been unsatisfactory or failed.

Repeated failures of the usual forms of treatment to arrest or to improve these above-mentioned diseases have not yet stimulated the physician to take the Combined Treatment into serious consideration.

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gradual, that the change, though it required four years, and this might be termed slow, was really rapid, if the character of the tissue acted upon be realized.

Thus I claim, is so great an alteration of tissue brought about, that it is required to be openly demonstrated and plainly shown to be believed. Am I not right in urging the use of the Combined Treatment, vigorously and persistently, when it has produced such a result as this ?

In other forms of exudate organized and non-organized which have been so greatly changed, and in addition removed, as to result in healthier or even almost normal tissue, are only additional proofs of my contention.

This successful treatment of the eye in so many of its diseases, affecting so many parts of it, is surely rightly taken to indicate, that the other diseased tissues or organs should, if the Combined Treatment be properly used, experience a similar salutary effect. What the especial diseases of these organs or tissues may be, I shall not attempt to name.

However, I do state, that I feel that I have made out a case so strong, that oculists should now take a definite interest in the Combined Treatment; and physicians should now exert themselves to use it, and become convinced in this practical way, that there is in this practice, a means of getting good results more speedily than they now do, and also of getting good results, where poor results have unfortunately been the rule with few exceptions.

I think the favourable terminations of so many of my cases, and the results obtained in those not fully successful, verify my contention, that the Combined Treatment does excel in a certain class of diseases of the eye all other modes of treatment now in use.

It is I allow a bold statement to formulate ; but have

measure of wrongly directed teaching and the adherence to unwise precedent, that I find fault with.

Again, when the Combined Treatment can act upon calcified tissue, as in that case of marked calcareous degeneration of the corneæ, so that it becomes practically normal, surely a treatment which does this deserves notice and a fair trial.

When it has acted so well in regard to chronic articular rheumatism as shown in that same case, and in gonorrhœal rheumatism with iritis, and also in other cases, assuredly in the many forms of rheumatism which almost seem to sport with the usual remedies, the necessity of a fair trial should have forced itself upon their attention.

I am persuaded from my own observations that in certain forms of irregularities and diseases of the liver, the employment of this treatment should be followed by an easily visible change for the better. In diseases of the skin how often is the usual treatment only palliative. Again how often are the curative effects so incomplete that frequent relapses are the rule. The good result of Combined Treatment should excite their curiosity and stimulate these specialists to use it.

When I have shown again and again how radical, searching, and consistent is its action, thereby meaning how it always seems to follow out the mode of action laid down as my working hypothesis, the query naturally suggests itself, why is it treated with such indifference? Occasionally I have heard of its trial and of its non-success. However, when I have also been told of the manner of the administration of the Combined Treatment, I have not been astonished.

Again I must insist upon the necessity, if it is to be used successfully, that the routine and rules laid down, be scrupulously followed out.

Have I not illustrated this point by telling of more than one of my nurses, who under my own directions, have more than once given hypodermic injection of pilocarpin of a certain strength without a proper effect.

When I have given the same dose, a proper result has followed. The failure, I think may have been due in part to an escape of the fluid from the puncture in the the skin. The strength of the solution I use is gr. v. ad ʒ j., whereas that of the nurses was gr. j. ad ʒ j. Thus as they had to inject much more fluid than I did, there would be more likelihood of an escape and in this way only can I account for their failures. Hence, how necessary it is to insist upon my prescribed routine and see that it is carried out.

I think the Combined Treatment ought to be useful in partial and general thickening of the vocal chords; in certain types of tuberculous affections of the larynx. In all syphilitic affections of the throat it should be of value.

I should like to see it consistently tried in cancerous affections in the early stage.

In the ear I have tried it but not extensively. Its success has not been very great, but this non-success was more due to the patient giving up the treatment too soon than to the failure on the part of the treatment. In the ear diseases patients are so soon discouraged, that it is difficult to induce them to continue. In the ear unless the improvement be marked, the patient cannot estimate or realize it. In the eye it is different, as an improvement in sight is a more tangible and convincing process.

In all my cases herein narrated, the Combined Treatment has had, I think a candid observer ought to allow, a salutary effect upon the whole system, and thus given rise to the marked curative action, by causing a

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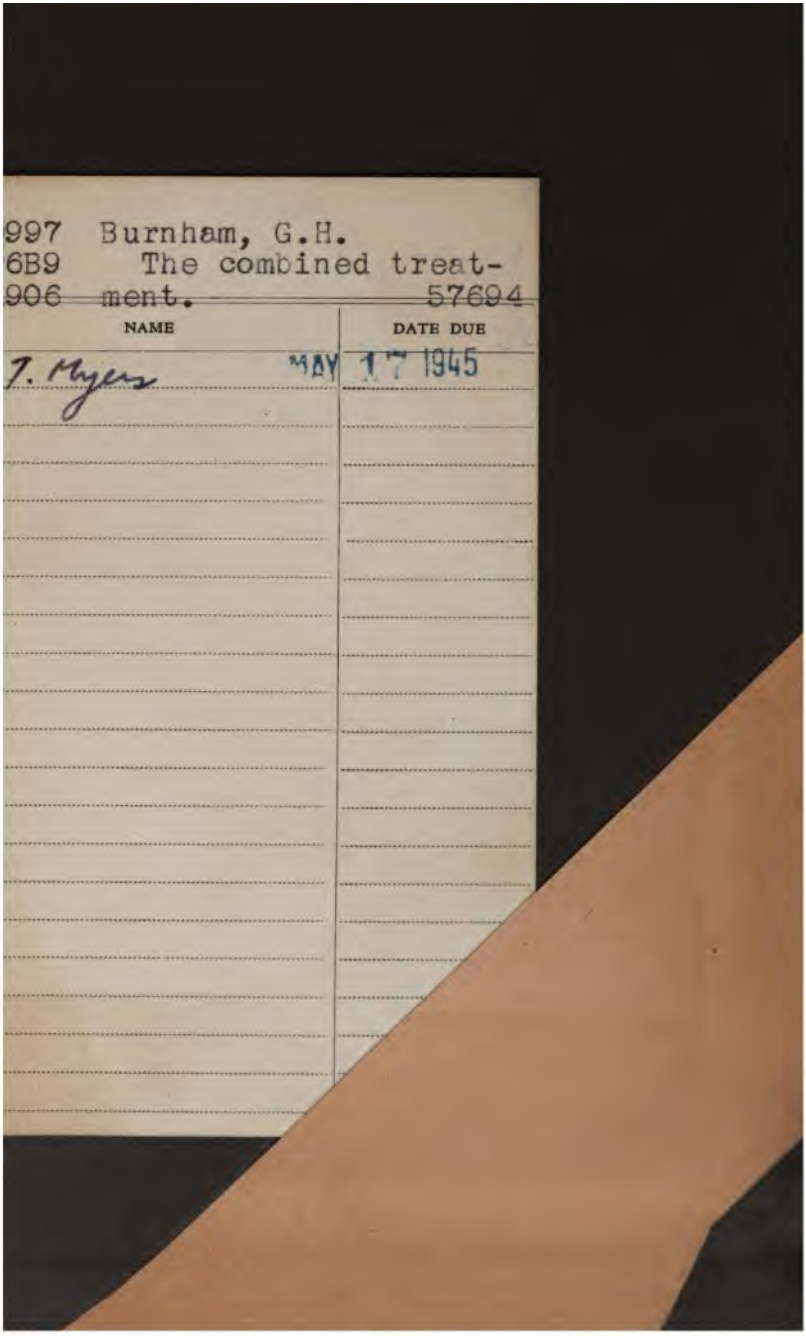

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